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Farm Economics

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No. 9—November 20, 1923

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Prices of 10 basic commodities	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
	U. S. Bureau Labor Statistics	Fisher[1]	Harvard				
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
April, 1922	146	....	123	147	94	101	190
May	151	....	135	150	90	109	194
June	153	....	143	150	84	121	196
July	158	....	155	152	77	125	195
August	158	....	163	157	70	130	198
September	156	....	160	160	69	151	202
October	157	....	172	161	73	156	202
November	159	....	170	153	81	152	205
December	159	....	171	156	87	142	208
January, 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November 1	....	....	149	....	....	....	....
Week ending Nov. 2	....	157	....	....	....	....	....
" " Nov. 9	....	157	....	....	....	....	....
" " Nov. 16	....	155	....	....	....	....	....

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

ANNOUNCEMENT

The reports on prices are issued monthly and are intended to bring the data given in bulletin 416 up-to-date. Explanations of the work are given in that bulletin.

The number of farmers who have asked for the mimeographed sheets on prices has been so large that it seems best to print these reports until next July. No plans are made beyond that date.

The data on prices of stocks, unfilled orders of the U. S. Steel Corporation and the like are given not because of the direct interest that farmers have in any of these figures, but because industrial conditions strongly influence the demand for agricultural products. Farmers who are heavily in debt are even more interested in the outlook for inflation or deflation because so large a part of their incomes go for interest and taxes which require a fixed number of dollars. The difficulty of acquiring the required number of dollars is largely dependent on the general price movements.

THE BASE PERIOD

When possible all the index numbers used in this publication are converted to a five-year base 1910-1914 = 100. These numbers therefore differ from the form in which they are originally published. A five-year base is used because a one-year base is too short for comparison with individual farm products.

INDEX NUMBERS OF BUSINESS CONDITIONS

	General Price Level U. S. Bureau Labor Statistics	General Price Level Fisher	10 basic commodities Harvard	Farm prices U. S.	Price paid to farmers for foods U. S.	Prices industrial stocks
War peak	252	252	293	241	232	183
Low point of panic	141	136	113	108	113	107
High last spring	162	170	178	139	126	167
Present	156	155	149	138	123	140
Present movement	Down	Down	Down	Up	Up	Down

A peak in business activity came last spring. Since that time considerable slackening in business has occurred.

Prices of industrial stocks are usually a good barometer of future business. These prices declined from 167 last March to 140 for October.

The Harvard index which includes ten sensitive basic commodities declined from 178 last spring to 149 for November 1. Prices have been fairly stable for several months. Basic commodities fluctuate more violently than the general price level and usually forecast general price movements.

The United States Bureau of Labor index for all commodities declined from 162 last spring to 156 for October. Fisher's index declined from 170 in April to 155 for the week ending November 16.

So far the decline in business activity has not had much effect on retail buying. But wholesalers and speculators who are buying for future sales are cautious so that prices to producers are somewhat affected. (Continued on page 78.)

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

Year	Farm Prices		Prices of Food in the United States		
	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
January, 1922	142	117	119	130	146
February	139	116	119	134	146
March	138	124	128	136	143
April	132	123	125	136	143
May	138	126	129	137	143
June	138	129	129	139	145
July	141	129	126	141	146
August	125	125	120	137	143
September	124	119	113	137	144
October	122	122	117	139	147
November	131	129	120	142	149
December	136	134	124	143	152
January, 1923	127	137	126	140	148
February	132	136	123	140	146
March	133	138	123	142	146
April	143	139	122	143	147
May	148	138	124	143	147
June	163	134	121	141	148
July	157	134	120	140	152
August	149	129	118	141	151
September	151	133	122	146	154
October	147	138	123	147	155

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[1] From United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100 calculated from prices paid to producers as published by the United States Department of Agriculture.

The index number for prices paid to farmers for food is the index of the price which the approximate quantity of food produced on American farms would bring if sold at the farm prices for the month, when the five-year average for 1910-1914 for the month is 100.

More technically, it is an aggregative average based on the following quantities all expressed in millions: corn 150 bushels, oats 70 bushels, wheat 700 bushels, barley 30 bushels, rye 60 bushels, buckwheat 11 bushels, beans 9 bushels, cabbage 6.4 hundredweight, onions 10 bushels, potatoes 170 bushels, sweet potatoes 60 bushels, peanuts 40 pounds, apples 99 bushels, chickens 1,000 pounds, eggs 1,000 dozen, butter 2,300 pounds (this amount represents all dairy products), beef cattle 117 hundredweight, veal calves 10 hundredweight, sheep 10 hundredweight, lambs 4 hundredweight, hogs 99 hundredweight. These quantities were arrived at by study of the Census of Agriculture and Manufacturers for 1919 and the Yearbooks of the Department of Agriculture. They approximately represent 1919, but vary from this if the yield of that year was abnormal.

The index of farm prices for the United States is an aggregative average based on the weights given above except for the following: corn 461 bushels, oats 277 bushels, barley 45 bushels, flaxseed 8 bushels, broom corn 0.04 tons, cotton 5,688 pounds, cottonseed 5.328 tons, hay 13,137 tons, wool 236 pounds, horses 0.521 head.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Corn, bu.	Sept. 1	$0.866	$1.00	118	123
	Oct.	.857	1.00	122	127
	Nov.	.839	1.10	132	143
Oats, bu.	Sept. 1	.373	.58	95	118
	Oct.	.386	.54	99	115
	Nov.	.402	.53	104	115
Wheat, bu.	Sept. 1	.887	1.10	101	115
	Oct.	.932	1.03	107	106
	Nov.	.951	1.05	108	108
Barley, bu.	Sept. 1	.507	.85	86	112
	Oct.	.531	.83	88	111
	Nov.	.563	.78	94	104
Rye, bu.	Sept. 1	.562	.91	78	115
	Oct.	.582	1.00	79	127
	Nov.	.595	.94	81	118
Buckwheat, bu.	Sept. 1	.985	1.15	132	151
	Oct.	.947	1.13	130	153
	Nov.	.936	.97	131	135
Flaxseed, bu.	Sept. 1	2.048	....	120	....
	Oct.	2.121	....	127	....
	Nov.	2.121	....	131	....
Beans, bu.	Aug. 15	3.62	4.40	157	179
	Sept.	3.78	3.90	165	158
	Oct.	3.87	3.90	171	160
Cotton, lb.	Sept. 1	.241	....	198	....
	Oct.	.272	....	225	....
	Nov.	.288	....	238	....
Hay, ton	Sept. 1	12.08	15.30	104	101
	Oct.	12.42	15.60	107	102
	Nov.	12.45	16.00	107	107
Onions, bu.	Aug. 15	1.85	2.10	165	200
	Sept.	1.79	1.88	179	232
	Oct.	1.86	1.81	194	232
Potatoes, bu.	Sept. 1	1.19	1.60	148	180
	Oct.	1.002	1.34	145	194
	Nov.	.827	1.00	138	179
Sweet potatoes, bu.	Sept. 1	1.337	....	143	....
	Oct.	1.116	....	131	....
	Nov.	1.022	....	134	....
Apples, bu.	Sept. 1	1.114	1.34	159	216
	Oct.	1.151	1.20	167	197
	Nov.	1.050	....	145	....
Horses, head	Aug. 15	78.00	130.00	55	73
	Sept.	82.00	133.00	59	75
	Oct.	80.00	130.00	58	74

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	Sept. 1	$0.195	$0.26	164	167
	Oct.	.196	.25	166	161
	Nov.	.185	.26	162	179
Eggs, doz.	Sept. 1	.265	.39	137	144
	Oct.	.324	.42	145	140
	Nov.	.383	.54	150	154
Butter, lb.	Sept. 1	.391	.46	158	153
	Oct.	.414	.49	161	158
	Nov.	.429	.50	161	156
Milk, 3.7%	Aug. 1	....	2.335	....	155
Pool price (Utica)	Sept.	....	2.45	....	154
	Oct.	....	2.57	....	144
Milch cows, head	Aug. 15	55.45	74.00	112	131
	Sept.	56.13	80.00	114	140
	Oct.	55.51	75.00	111	134
Beef cattle, cwt.	Aug. 15	5.60	6.10	104	108
	Sept.	5.70	5.50	107	97
	Oct.	5.48	5.20	103	91
Veal calves, cwt.	Aug. 15	8.00	10.70	116	126
	Sept.	8.34	11.00	119	126
	Oct.	8.37	11.40	119	129
Sheep, cwt.	Aug. 15	6.22	5.20	141	121
	Sept.	6.57	5.00	150	123
	Oct.	6.33	5.40	147	133
Lambs, cwt.	Aug. 15	9.96	11.00	176	174
	Sept.	10.28	11.00	183	179
	Oct.	10.17	11.30	185	188
Wool, lb.	Aug. 15	.370	.44	208	220
	Sept.	.371	.41	214	195
	Oct.	.369	.43	216	205
Hogs, cwt.	Aug. 15	6.85	7.80	92	101
	Sept.	7.81	8.20	103	103
	Oct.	7.23	8.60	98	109

PRICES PAID BY FARMERS

Bran, ton	Aug.	$34.10	124
	Sept.	36.50	131
	Oct.	39.30	143
Cottonseed meal	Aug.	54.00	159
	Sept.	56.00	163
	Oct.	55.50	162

CARLOAD PRICES OF FEED AT BUFFALO

5 year average price	Bran	Standard Middlings	White Hominy	Gluten feed	Linseed oilmeal 31%	Cottonseed meal 36%
Oct., 1910 to 1914	$22.02	$24.10	$27.75	$27.18	$32.80	$30.39
October, 1923	33.13	33.88	41.13	49.40	48.00	47.00
Index numbers	150	141	148	182	146	155

BUSINESS CONDITIONS (Continued)

The strong favorable factor in the situation is interest rates. Low interest rates stimulate business. These have declined and for October the rates on 4 to 6 months' commercial paper were 85 per cent of the five-year pre-war average for October. With European conditions apparently getting worse, with farm prices out of adjustment and with a feverish building boom in cities, our prosperity is certainly unstable. But to offset all these there is the very strong position of the banks, so that low discount rates can be granted.

Farm prices except for cotton have shown little improvement. Wheat, hogs and beef cattle remain practically at pre-war prices.

PRICES OF FARM PRODUCTS IN THE UNITED STATES

The average price of farm products is 38 per cent above the pre-war level. This average would be much lower were it not for cotton which is 138 per cent above the pre-war average. Wheat is only 8 per cent, and beef cattle only 3 per cent above the five-year average before the war. Hogs are 2 per cent below pre-war prices. Butter is 61 per cent above the pre-war average.

PRICES OF FARM PRODUCTS IN NEW YORK

The weighted average for New York farm products is 47 per cent above the pre-war level. The pool price for milk for October was 44 per cent above the five-year pre-war average for October.

Prices for apples, potatoes and cabbages are considerably above the pre-war basis, but have been very unstable.

Farm prices of grain are much below the prices that farmers pay for feeds that are made from the by-products of grain. Wheat on New York farms is 8 per cent above the pre-war price, but the price paid by farmers for bran is 43 per cent above pre-war. The farm price of wheat is only $35 per ton. Since bran costs more than this, wheat raisers who have the facilities are grinding wheat for feed.

VARIABILITY OF FARM PRICES

In a period of rapidly falling prices, farmers are often advised to rush from one product to another in the hope of finding a way out of the difficulty. Types of farming not well adapted to the region are advocated. A very little shift from one of the basic industries such as wheat into a minor product such as potatoes may have little effect on wheat but have an overwhelming effect on potatoes. This was well illustrated in 1922 by the wheat growers of Dakota who turned to potatoes. Consumption is also very erratic. Hence the most abnormal price relationships are common.

In August, 1920, the index number for the farm price of cotton was 294. In the following May it was 75. It is now back to 238.

In May, 1920, the potato price index was 566. A year later it was 98, but rose to 206 by November, 1921, then dropped to 95 by March of 1923 and has now risen to 134.

The index for corn was 268 in July, 1920. It fell to 65 in November, 1921, and has risen to 132 for November of this year.

VARIABILITY OF PRICES (Continued)

The index number of the pool price for milk in New York was 289 in June, 1920, dropped to 109 in April, 1922, and was 144 for October this year.

Equally violent fluctuations occurred following the Civil War. The index number of hog prices in New York City was 200 in July, 1865, fell to 119 in October, 1867, rose to 181 in April, 1869, fell to 80 in April, 1872.

The corn price index was 255 in January, 1865, fell to 106 in the following April, rose to 192 in January, 1868, and fell to 78 in July, 1873.

The wheat price index was 186 in January, 1865, fell to 102 in July, rose to 226 in January, 1867, and fell to 85 in April, 1870.

The unusual variability of prices gives a good opportunity for profit when a large supply is sold at a high price and an unusual opportunity for loss when sold at a low price. For one who is not compelled to sell to get cash, products such as hay, corn, and wheat that can be held for a year are good property to hold, when they drop close to pre-war prices. Corn and hay held over from last year could be sold at a higher price this year. Wheat held this year offers a good possibility of profit. If the price does not go up next year, the old wheat can be sold and the new held.

FARM, WHOLESALE AND RETAIL PRICES OF FOOD

In Farm Economics No. 4, a comparison was made of farm, wholesale and retail prices for nine farm products that were as nearly identical as possible. This month an index number of farm prices for the important foods is published for the first time.

Retail prices lag behind farm and wholesale prices both when going up and when coming down. In 1917, the prices paid to farmers for food were 80 per cent above the pre-war level (see page 75), but retail prices were only 51 per cent above. In 1918, the differences were equally striking.

When prices suddenly fall, freight rates and handling charges remain high and the farm price falls more than retail.

The average price paid to farmers for foods has remained practically stationary for 31 months. Apparently so long as freights and wages remain where they are the price paid to farmers for food must remain at about one-fourth above the pre-war level unless retail prices go more than a half above pre-war. The average price paid to farmers for food for 31 months has been 122 and the average retail price 150, when the five-year pre-war average is in each case 100. The average prices paid to farmers for all farm products is considerably higher than the price for food due to prices of cotton, wool, etc.

In October, 1923, the major food products sold from American farms brought 23 per cent more than the same quantity of products would have brought if sold at the five-year average pre-war prices. According to the United States Bureau of Labor Statistics, wholesale prices of food were 47 per cent above the pre-war level and retail prices 55 per cent above.

FARM, WHOLESALE AND RETAIL PRICES (Continued)

The results of such violent price changes are disastrous to both parties. The rising prices to farmers a few years ago caused young men to buy farms at high prices only to lose them when the reaction came .

The excessively low-priced food causes city workers to set new standards for homes and living conditions only to be disappointed when food again sells for as much as the labor involved in its production is worth.

The mal-adjustment between prices that farmers receive and prices that they must pay, greatly favors the production of home supplies of food and of feed for livestock.

RELATION OF CHEAP FOOD TO THE BUILDING BOOM

At the present time, city wages are about double the pre-war. Food at retail in the United States is only 55 per cent above prewar while the farmer receives 23 per cent above pre-war.

This has resulted in an unprecedented movement from farms to cities. This movement leaves empty rooms and empty houses on farms but calls for new homes in cities.

When food takes much less than the former portion of the income, a large amount is available for other purposes. Some of this goes for clothing and both cotton and wool are very high, but a large part goes for increased housing facilities. Many more rooms per capita are required. Cheap food normally causes a building boom.

The present building boom is based on:

1. Neglect of repairs to buildings and railroads during the war.
2. A shortage of houses due to failure to build during the period when food was high relative to wages.
3. Great expansion in the desire for room because food is very cheap.
4. Movement from farms to cities because the farmer gets so little for food and because wages in cities are so high.

Only the first two of these are on a sound basis. For a stable condition much of the effort now expended in city construction should be expended in improving farms, laying tile drains, repairing barns, fences, and the like. While the city building boom lasts farm repairs will be neglected.

The demand for house room is very elastic. Before many years a reaction is likely to come. When it comes and there is unemployment in cities the population will suddenly find that much less room is necessary. Thrifty persons who have bought homes with a small payment down are likely to find their equities wiped out just as thrifty young farmers found their savings gone when farm values were readjusted. In any violent period of downward readjustment there is a time when prices go far too low. City houses have a very real and permanent value, but there may be periods when these values can not be converted into cash at anywhere near their true worth ,just as it is now impossible to convert farm houses, barns, and tile drains into cash at their true worth. Banks are more involved in the financing of city real estate than they are in financing farms. The severest test of banks is likely to come when city real estate values are readjusted.

PRICE MOVEMENTS OF THE CIVIL WAR AND WORLD WAR PERIODS COMPARED

When prices suddenly rise a definite chain of events is started. When they fall another set of changes takes place and in each case a fairly definite order is followed. It is therefore not surprising to find that price changes during the recent periods of inflation and deflation are similar to those that occurred during the Civil War period.

CIVIL WAR PERIOD	WORLD WAR PERIOD
1. 1860—Business checked. Slight decline in prices due to shock at outbreak of war.	1. 1914—Same as Civil War period No. 1
2. April, 1862, to January, 1865—Rapidly rising prices. Wages lagged behind. Building in cities checked. Prices to farmers rose faster than retail prices. Rapid sales of farm land and equipment at high prices in latter part of period.	2. December, 1915, to May, 1920. Same as Civil War period No. 2.
3. 1865—Rapid fall in prices. Unemployment. Prices paid to farmers fell most. Severe agricultural panic.	3. 1921—Same as Civil War period No. 3.
4. Some rise in prices. Full employment. Food very cheap. Building boom of houses and railroads. Agricultural depression continues.	4. Some rise in prices. Full employment. Food very cheap. Building boom—houses, railroad repairs, etc. Agricultural depression continues, but clothing and finer foods in demand.
5. Collapse of reconstruction boom. Severe city panic.	
6. Period of generally declining prices reaching pre-war level in 1877.	

Why should all the above be presented when times are so good in cities? Because the more fully such possibilities are appreciated, the more cautious men become when there is too much optimism and the more optimistic they are when bad times come. Many of those who are too optimistic in good times are the very ones who are too pessimistic in bad times. A full appreciation of all the facts might also prevent too large a movement from farms to cities.

FARM FINANCES

When a serious readjustment of city real estate values comes, money will be in great demand. It will be well for farmers not to have large payments coming due at any one time. The safe procedure is to pay debts at every opportunity and get those debts that cannot be paid converted into long-time obligations such as Land Bank mortgages. A Land Bank mortgage is completely wiped out in 33 years by the payment of 6½ per cent per year. No large payments have to be made.

FARM IMPROVEMENTS

In ordinary times if one puts $1,000 into improvements in a barn the annual cost is interest, taxes and depreciation. Perhaps it should be worth $80 to $100 per year to pay. At the present time, an additional charge should be included for extraordinary depreciation due to danger of declining costs of building. Such an improvement ought now to be able to pay interest and taxes, and perhaps half of its cost in five years, to make it a desirable investment.

If one is not heavily in debt, he may farm as usual, but the conservative course for the man who is heavily in debt is to figure carefully on all expenditures for things that cost much more than the pre-war price unless they will pay for themselves quickly.

EFFECT OF CHEAP FOOD ON DEMAND FOR DIFFERENT CLASSES OF FARM PRODUCTS

When food is very cheap, there is a great demand for clothing and both cotton and wool are exceedingly high in price. The consumption of cotton in Europe is about two-thirds of the pre-war rate, but the American consumption is very high and the farm price is 138 per cent above pre-war. At the same time, the farm price of foods averages only 23 per cent above pre-war.

Different classes of foods are very differently affected. Eggs and butter are in demand. The better grades of each sort of food are much more in demand than are the poorer grades. Lamb is high compared with mutton. Nearby hennery white eggs are high compared with poorer grades of eggs.

The Institute of American Meat Packers reports that in September wholesale prices of pork loins in Chicago were 60 per cent above pre-war, but sides were 20 per cent below pre-war. Carcass beef from prime native steers was 35 per cent above pre-war; that from medium steers 13 per cent above; and that from cows was 10 per cent below pre-war.

Since wages may be expected to be high for some years, as they were following the Civil War, the spread between prices of high and low grades of food may be expected to continue except during periods of unemployment.

In such erratic times it is difficult to describe the state of agriculture. The farmer who happens to have the favored product may be doing very well unless the supply is abnormal, but the producer of staple foods who is in debt is in severe difficulty.

LATER READJUSTMENTS

If prices decline for a series of years, the present check in agricultural development will continue and will ultimately result in too small an agricultural production. City industry can be adjusted quickly. It takes a long time to stop agriculture because the crop rotations are going and the young animals are on hand, but although checked more slowly agriculture is checked just as surely by adverse conditions as in any other industry. When prices rise it will again take some time to get agriculture speeded up. The inevitable final result of a long period of agricultural depression is a long period when the high cost of living will be the great problem.

—G. F. Warren

POTATO PRICES—G. P. Scoville

The fall weather has been so favorable for the potato crop that each month the crop forecast has increased. The November 1 forecast of the crop as made by the United States Department of Agriculture is 416.7 million bushels.

For the present population 419 million bushels is estimated as a normal crop. The November estimate is therefore 99.3 per cent of normal. Using this and the October index of wholesale prices as given by the Bureau of Labor Statistics, the probable price range for "State Bulk" potatoes per 180 pounds in New York City is $3.39 to $4.23.

When there is a 99 per cent crop, the prices for the months from October to June have averaged as follows when the season's average is 100.

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
87	90	96	101	102	104	109	107	104

	Actual price	Most probable price
October (last 2 weeks)	$3.22	$3.31
November (first 2 weeks)	3.12	3.43
December	——	3.66

At the present time the unusual economic conditions may affect potato prices. The full employment increases the demand for more expensive foods and lessens the demand for potatoes. Wheat is cheap and further depresses the demand.

RELATION OF CABBAGE PRICES TO SIZE OF THE CROP—

G. P. Scoville

The October 1 forecast of the commercial cabbage crop as published by the United States Department of Agriculture was 497,700 tons, which is equal to about 40,000 cars of 12.5 tons each. Since 1915, there have been three years when the cabbage crop was about one-fourth larger, two years when the crop was a little less, and three years when the crop was about one-third less than the forecasted production for this year.

There has usually been a close relationship between the estimated production and wholesale price of cabbage in New York City. The table below shows the crop for ten northern states as estimated by the United States Department of Agriculture and the estimated price range based on production compared with the unweighted average wholesale price of Danish cabbage in New York City from October to April.

CABBAGE PRODUCTION AND PRICES

Year	Estimated crop (thous. of cars)	New York City Wholesale Price per Ton Price range forecast from size of crop		Actual season's price
1915	52	$8 to	$11	$10
1916	20	54	71	76
1917	38	37	49	35
1918	39	36	50	37
1919	31	60	80	69
1920	53	12	16	14
1921	27	42	55	37
1922	50	15	20	26
1923	40	28	38	....

Based on the relationships which have existed in the past between the production and price of cabbage, the average season's price for this year can be predicted from the forecasted production. The chances are even that the average price for Danish cabbage from October, 1922, to April, 1924, in the New York City wholesale market will fall somewhere between $28 and $38 per ton. The chances are one-fourth that the price will be less than $28 and one-fourth that it will be over $38. The chances are one-eleventh that the average price will be less than $24 and one-eleventh that it will be over $42.

Prices in different months are also influenced by the size of the crop as shown below.

RELATION OF SIZE OF CABBAGE CROP TO PRICES IN DIFFERENT MONTHS

Year	Thousands of cars	N. Y. City Wholesale Price Danish Cabbage per ton Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Inc. in Dec. price over Oct.
1920	53	$12	$13	$15	$16	$15	$14	....	$3
1922	50	21	13	21	24	36	39	31	0
1915	52	8	6	8	10	9	14	12	0
1923	40	22	18*	....	....	....	....	....	....
1918	39	19	17	22	26	23	42	112	3
1917	38	31	25	38	46	58	26	22	7
1919	31	....	34	69	87	72	78	75	35
1921	27	31	36	47	50	38	37	18	16
1916	20	40	47	54	104	130	84	....	14

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* 2 weeks.

The price that northern grown cabbage brings in New York City in early spring depends upon the size of the new cabbage crop from the South. March prices are usually not much higher than December prices in the years when there is a good southern crop, but in years when the southern crop is short, March prices are likely to be much better than December prices. During this eight-year period, there has been a very rapid increase in the production of southern cabbage and this growth in production was considered in arranging the years according to the size of the southern crop, as shown in the following table.

RELATION OF THE SOUTHERN CABBAGE CROP TO WHOLESALE PRICES OF DANISH CABBAGE IN NEW YORK

Year	South'n crop in thous. of cars	North'n crop in thous. of cars	N. Y. C. Wholesale Price Danish Cabbage per ton Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Increase March over Dec.
1921-22	21.0	27	$31	$36	$47	$50	$38	$37	$18	—$10
1919-20	18.7	31	....	34	69	87	72	78	75	9
1920-21	15.2	53	12	13	15	16	15	14	....	— 1
1915-16	9.3	52	8	6	8	10	9	14	12	6
1917-18	9.5	38	31	25	38	46	58	26	22	— 12
1918-19	8.1	39	19	17	22	26	23	42	112	20
1922-23	10.2	50	21	13	21	24	36	39	31	18
1916-17	5.5	20	40	47	54	104	130	84	....	30

FARM ECONOMICS

Department of Agricultural Economics and Farm Management
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No. 10—January 5, 1924

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Prices of 10 basic commodities	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
	U. S. Bureau Labor Statistics	Fisher[1]	Harvard				
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
April, 1922	146	....	123	147	94	101	190
May	151	....	135	150	90	109	194
June	153	....	143	150	84	121	196
July	158	....	155	152	77	125	195
August	158	....	163	157	70	130	198
September	156	....	160	160	69	151	202
October	157	....	172	161	73	156	202
November	159	....	170	153	81	152	205
December	159	....	171	156	87	142	208
January, 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	86	97	218
December	....	....	153	....	....	....	....

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

Prices of farm products for November were not received from the Department of Agriculture until January 5, hence the delay in publishing this number. The next number will be issued early in February and it is hoped that January figures may be obtained.

INDEX NUMBERS OF BUSINESS CONDITIONS

	General Price Level		10 basic commodities	Farm prices	Price paid to farmers for foods	Prices industrial stocks
	U. S. Bureau Labor Statistics	Fisher	Harvard	U. S.	U. S.	
War peak	252	252	293	241	232	183
Low point of panic	141	136	113	108	113	107
High last spring	162	170	178	139	126	167
Present	155	155	153	141	122	146
Present movement	Down	Down	Up	Up	Down	Up

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

	Farm Prices		Prices of Food in the United States		
Year	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
January, 1922	142	117	119	130	146
April	132	123	125	136	143
May	138	126	129	137	143
June	138	129	129	139	145
July	141	129	126	141	146
August	125	125	120	137	143
September	124	119	113	137	144
October	122	122	117	139	147
November	131	129	120	142	149
December	136	134	124	143	152
January, 1923	127	137	126	140	148
February	132	136	123	140	146
March	133	138	123	142	146
April	143	139	122	143	147
May	148	138	124	143	147
June	163	134	121	141	148
July	157	134	120	140	152
August	149	129	118	141	151
September	151	133	122	146	154
October	147	138	123	147	155
November	146	141	122	147	156

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[1] From United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100 calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Corn, bu.	Oct. 1	$0.857	$1.00	122	127
	Nov.	.839	1.10	132	143
	Dec.	.727	1.00	124	133
Oats, bu.	Oct. 1	.386	.54	99	115
	Nov.	.402	.53	104	115
	Dec.	.415	.55	107	117
Wheat, bu.	Oct. 1	.932	1.03	107	106
	Nov.	.951	1.05	108	108
	Dec.	.923	1.10	107	112
Barley, bu.	Oct. 1	.531	.83	88	111
	Nov.	.563	.78	94	104
	Dec.	.540	.75	89	100
Rye, bu.	Oct. 1	.582	1.00	79	127
	Nov.	.595	.94	81	118
	Dec.	.647	.91	87	112
Buckwheat, bu.	Oct. 1	.947	1.13	130	153
	Nov.	.936	.97	131	135
	Dec.	.933	.96	131	133
Flaxseed, bu.	Oct. 1	2.121	....	127	....
	Nov.	2.121	....	131	....
	Dec.	2.108	....	136	....
Beans, bu.	Sept. 15	3.78	3.90	165	158
	Oct.	3.87	3.90	171	160
	Nov.	3.83	3.90	171	162
Cotton, lb.	Oct. 1	.272	....	225	....
	Nov.	.288	....	238	....
	Dec.	.310	....	254	....
Hay, ton	Oct. 1	12.42	15.60	107	102
	Nov.	12.45	16.00	107	107
	Dec.	13.05	16.20	106	106
Onions, bu.	Sept. 15	1.79	1.88	179	232
	Oct.	1.86	1.81	194	232
	Nov.	1.75	1.75	182	227
Potatoes, bu.	Oct. 1	1.002	1.34	145	194
	Nov.	.827	1.00	138	179
	Dec.	.823	.95	136	148
Sweet potatoes, bu.	Oct. 1	1.116	....	131	....
	Nov.	1.022	....	134	....
	Dec.	.979	....	136	....
Apples, bu.	Oct. 1	1.151	1.20	167	197
	Nov.	1.050	1.20	145	185
	Dec.	1.022	....	133	....
Horses, head	Sept. 15	82.00	133.00	59	75
	Oct.	80.00	130.00	58	74
	Nov.	78.00	127.00	57	73

PRICES PAID TO PRODUCERS (Continued)

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Chickens, lb.	Oct. 1	$0.196	$0.25	166	161
	Nov.	.185	.26	162	179
	Dec.	.173	.23	160	167
Eggs, doz.	Oct. 1	.324	.42	145	140
	Nov.	.383	.54	150	154
	Dec.	.478	.65	159	159
Butter, lb.	Oct. 1	.414	.49	161	158
	Nov.	.429	.50	161	156
	Dec.	.457	.53	161	156
Milk, 3.7%	Sept.	....	2.45	....	154
Pool price (Utica)	Oct.	....	2.57	....	144
	Nov.	....	2.68	....	143
Milch cows, head	Sept. 15	56.13	80.00	114	140
	Oct.	55.51	75.00	111	134
	Nov.	55.39	74.00	111	131
Beef cattle, cwt.	Sept. 15	5.70	5.50	107	97
	Oct.	5.48	5.20	103	91
	Nov.	5.23	5.40	100	99
Veal calves, cwt.	Sept. 15	8.34	11.00	119	126
	Oct.	8.37	11.40	119	129
	Nov.	7.85	11.50	113	131
Sheep, cwt.	Sept. 15	6.57	5.00	150	123
	Oct.	6.33	5.40	147	133
	Nov.	6.20	5.60	146	142
Lambs, cwt.	Sept. 15	10.28	11.00	183	179
	Oct.	10.17	11.30	185	188
	Nov.	10.01	11.10	183	184
Wool, lb.	Sept. 15	.371	.41	214	195
	Oct.	.369	.43	216	205
	Nov.	.364	.44	212	210
Hogs, cwt.	Sept. 15	7.81	8.20	103	103
	Oct.	7.23	8.60	98	109
	Nov.	6.66	8.50	96	114

PRICES PAID BY FARMERS

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Bran, ton	Sept.	....	$36.50		131
	Oct.	....	39.30		143
	Nov.	....	38.50		143
Cottonseed meal	Sept.	....	$56.00		163
	Oct.	....	55.50		162
	Nov.	....	57.00		170

CARLOAD PRICES OF FEED AT BUFFALO

5 year average price	Bran	Standard Middlings	White Hominy	Gluten feed	Linseed oilmeal 31%	Cottonseed meal 36%
Nov., 1910-1914	$22.32	$23.61	$27.11	$27.81	$32.57	$29.94
November, 1923	30.56	29.94	40.75	48.94	45.63	50.68
Index numbers	137	127	150	176	140	169

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No. 11—February, 1924

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level U. S. Bureau Labor Statistics	Fisher[1]	Prices of 10 basic commodities Harvard	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
1923	157	161	163	152	95	126	214
June, 1922	153	....	143	150	84	121	196
July	158	....	155	152	77	125	195
August	158	....	163	157	70	130	198
September	156	....	160	160	69	151	202
October	157	....	172	161	73	156	202
November	159	....	170	153	81	152	205
December	159	....	171	156	87	142	208
January, 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	87	97	218
December	154	154	153	151	92	93	220
January, 1924	....	154	153	....	....	....	....

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

INDEX NUMBERS OF BUSINESS CONDITIONS

	General Price Level U. S. Bureau Labor Statistics	Fisher	10 basic commodities Harvard	Farm prices U. S.	Price paid to farmers for foods U. S.	Prices industrial stocks
War peak	252	252	293	241	232	183
Low point of panic	141	136	113	108	113	107
High last spring	162	170	178	139	126	167
Present	154	154	153	143	121	151
Present movement	Down	Up	Unchgd	Unchgd	Down	Up

Wholesale prices as indicated by the United States Bureau of Labor Statistics index number reached a peak of 252 in May, 1920. Prices then began the most drastic decline that has ever been experienced since index numbers have been available. The decline lasted 20 months and prices reached 141 in January, 1922. Prices then rose 15 months and reached 162 in April of last year. Since that time prices have declined 8 points.

As indicated by the stock market the declining period began in November, 1919, and lasted 22 months. The period of expansion which reached a peak last March lasted 19 months.

Since periods of rising and falling prices average about 20 months, it is to be expected that the present decline which has lasted 10 months will continue for some months to come. Thus far there is no indication that the present reaction is to develop into a severe business depression. The Business Bulletin of the Cleveland Trust Company forecasts 1924 as follows: "Next year now promises to be a year of severe competition, a buyer's rather than a seller's year, a period of slow production, of narrower margins of profit, and a year of increased industrial efficiency. It promises to come in with a slight industrial decline, and to go out with a general recovery."

LITTLE IMPROVEMENT IN AGRICULTURE FOR THREE YEARS

Index numbers of prices paid to farmers for all products averaged 13 points higher in 1923 than in 1922, but this improvement was due primarily to the short crop and high price of cotton.

INDEX NUMBERS OF PRICES PAID TO FARMERS FOR THE MAJOR FARM PRODUCTS

1910-14 = 100

	1921	1922	1923
Hogs	108	116	98
Wheat	135	117	112
Beef cattle	104	102	105
Butter	151	139	160
Cotton	100	152	215
All farm products	119	124	137

It will be observed that for hogs and wheat the past year has been the worst one thus far. No material change has taken place in beef cattle. Cotton and butter have improved. The rise in average prices due to the high price of cotton has been assumed to represent a great improvement in agriculture. No general improvement has occurred. Those farmers who have products that are in short supply and that are desired when wages are high are receiving very good prices. Wool, cotton, butter, lambs are bringing good prices.

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

	Farm Prices		Prices of Food in the United States		
Year	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
1923	142	137	122	143	151
January, 1922	142	117	119	130	146
April	132	123	125	136	143
May	138	126	129	137	143
June	138	129	129	139	145
July	141	129	126	141	146
August	125	125	120	137	143
September	124	119	113	137	144
October	122	122	117	139	147
November	131	129	120	142	149
December	136	134	124	143	152
January, 1923	127	137	126	140	148
February	132	136	123	140	146
March	133	138	123	142	146
April	143	139	122	143	147
May	148	138	124	143	147
June	163	134	121	141	148
July	157	134	120	140	152
August	149	129	118	141	151
September	151	133	122	146	154
October	147	138	123	147	155
November	146	141	122	147	156
December	135	143	123	146	155
January, 1924	....	143	121	....	....

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[1] From United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100 calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

NO IMPROVEMENT IN PRICES PAID TO FARMERS FOR FOOD

The average prices paid to farmers for food continue to stand practically where they have stood for 33 months and there is no indication of any improvement. One food product rises and another falls, but there has been practically no general change for nearly three years.

For 33 months the average prices have been as follows:

Prices paid to farmers for food	122
Prices of food at wholesale	140
Prices of food at retail	150

So long as wages remain at double the pre-war, the price to the farmer for food cannot rise much above 120 unless retail prices go above 150.

There does not seem to be any hope for any increase in demand. With full employment at a 200 wage level and food costing only 150, consumption must be at the peak. It may shift from one food to another, but there is no hope for a general rise in consumption. There is no expectation that wages will decline materially. Apparently the only thing that can bring prices paid to farmers for food into adjustment with other prices is reduced production. It is doubtful whether the movement away from farms has gone far enough to bring about a sufficient general reduction in production. Unfavorable weather might bring such adjustment at once as it has done for cotton. As usual one or another of the foods is likely to be under-produced and be high in price. With the present outlook, for most farmers the policy of reduced expenditures seems to be still in order.

It is probable that a settlement of European difficulties might so increase the credit of Central Europe that increased buying would occur, but the outlook for materially increased demand from this source is not bright. Now that Europe is so poor its buying is regularly put off until late spring after its own supplies are gone. A slight increase in demand in the spring is therefore not to be taken as indicating a permanent improvement.

The abnormal ratio of food to wages cannot continue indefinitely. The longer it lasts the more violent the inevitable reaction will be. Cities are becoming adjusted to cheap food and are expanding housing, clothing, and luxury needs. When the inevitable reaction comes, violent readjustments in real estate values are to be expected.

ADJUSTING FARMING TO THE PROBABLE PRICE LEVEL

Since farming is a long-time enterprise, farmers are more concerned with prices for ten to fifteen years than with prices this year. For reasons, a very few of which are given in Bulletin 416, my guess is that the general tendency of prices for the next ten to fifteen years will be downward and that prices will closely approach or possibly go below the pre-war basis. If prices do not decline the procedure recommended will be too conservative. But since there is certainly considerable danger that prices will fall the conservative procedure is safest. If the guess is correct, the status of agriculture can be forecast with considerable accuracy. Agriculture is now injured by a period of falling prices even more than it was after the Civil War because it is more commercial than formerly.

1. If the general tendency of prices is downward great care should be exercised in buying anything that is much above pre-war prices unless it will pay for itself quickly.

2. From 1896 to 1914, prices rose at the rate of over 2 per cent per year, the emphasis was placed on production. With prices rising so rapidly production that was somewhat inefficient was still profitable. With falling prices the whole emphasis in agriculture is shifted from production to economy.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Corn, bu.	Nov.	.839	1.10	132	143
	Dec.	.727	1.00	124	133
	Jan.	.736	.98	126	136
Oats, bu.	Nov.	.402	.53	104	115
	Dec.	.415	.55	107	117
	Jan.	.434	.53	113	118
Wheat, bu.	Nov.	.951	1.05	108	108
	Dec.	.923	1.10	107	112
	Jan.	.967	1.10	111	111
Barley, bu.	Nov.	.563	.78	94	104
	Dec.	.540	.75	89	100
	Jan.	.565	.75	92	100
Rye, bu.	Nov.	.595	.94	81	118
	Dec.	.647	.91	87	112
	Jan.	.635	.80	89	103
Buckwheat, bu.	Nov.	.936	.97	131	135
	Dec.	.933	.96	131	133
	Jan.	.927	.95	131	134
Flaxseed, bu.	Nov.	2.121	....	131	....
	Dec.	2.108	....	136	....
	Jan.	2.188	....	135	....
Beans, bu.	Nov.	3.83	3.90	171	162
	Dec.	3.44	3.90	150	160
	Jan.	3.49	3.60	155	154
Cotton, lb.	Nov.	.288	....	238	....
	Dec.	.310	....	254	....
	Jan.	.325	....	264	....
Hay, ton	Nov.	12.45	16.00	107	107
	Dec.	13.05	16.20	106	106
	Jan.	13.59	16.90	116	111
Onions, bu.	Nov.	1.75	1.75	182	227
	Dec.	1.78	1.81	176	221
	Jan.	1.81	1.78	176	220
Potatoes, bu.	Nov.	.827	1.00	138	179
	Dec.	.823	.95	136	148
	Jan.	.864	.90	138	141
Sweet potatoes, bu.	Nov.	1.022	....	134	....
	Dec.	.979	....	136	....
	Jan.	1.125	....	143	....
Apples, bu.	Nov.	1.050	1.20	145	185
	Dec.	1.022	1.32	133	178
	Jan.	1.213	1.10	125	136
Horses, head	Nov.	78.00	127.00	57	73
	Dec.	75.00	120.00	55	68
	Jan.	73.00	120.00	53	69

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	Nov.	.185	.26	162	179
	Dec.	.173	.23	160	167
	Jan.	.175	.23	164	169
Eggs, doz.	Nov.	.383	.54	150	154
	Dec.	.478	.65	159	159
	Jan.	.354	.44	120	116
Butter, lb.	Nov.	.429	.50	161	156
	Dec.	.457	.53	161	156
	Jan.	.449	.53	158	156
Milk, 3.7%	Oct.	....	2.57	....	144
Pool price (Utica)	Nov.	....	2.58	....	137
	Dec.	....	2.40	....	126
Milch cows, head	Nov.	55.39	74.00	111	131
	Dec.	54.66	70.00	109	124
	Jan.	55.57	70.00	118	130
Beef cattle, cwt.	Nov.	5.23	5.40	100	99
	Dec.	5.26	5.20	101	96
	Jan.	5.38	5.00	107	95
Veal calves, cwt.	Nov.	7.85	11.50	113	131
	Dec.	7.75	10.90	112	124
	Jan.	8.36	11.50	123	136
Sheep, cwt.	Nov.	6.20	5.60	146	142
	Dec.	6.39	6.00	146	138
	Jan.	6.71	5.00	146	120
Lambs, cwt.	Nov.	10.01	11.10	183	184
	Dec.	10.10	11.10	178	180
	Jan.	10.19	11.30	176	176
Wool, lb.	Nov.	.364	.44	212	210
	Dec.	.362	.42	209	200
	Jan.	.366	.44	198	200
Hogs, cwt.	Nov.	6.66	8.50	96	114
	Dec.	6.39	8.20	95	112
	Jan.	6.59	7.50	94	101

PRICES PAID BY FARMERS

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Bran, ton	Nov.		$38.50		143
	Dec.		37.40		138
	Jan.		37.30		136
Cottonseed meal	Nov.		57.00		170
	Dec.		57.50		171
	Jan.		56.00		165

CARLOAD PRICES OF FEED AT BUFFALO

5 year average price	Bran	Standard Middlings	White Hominy	Gluten feed	Linseed oilmeal 31%	Cottonseed meal 36%
Dec., 1910-1914	23.19	23.82	26.47	27.94	32.64	29.95
December, 1923	29.90	28.90	36.40	44.93	46.20	53.90
Index numbers	129	121	138	161	142	180

3. When prices fall, wages will lag behind prices as they did when prices rose.

4. Wages of farm labor will be a compromise between city wages and prices of farm products. (See page 99.)

5. Prices of industrial products will fall more slowly because when these products cannot be sold on the wage basis of the time, production will stop. When the article becomes scarce and high in price production will begin, but on a much higher wage basis than could have been maintained had production been kept up.

6. Those who are engaged in personal industries such as farming will work harder and increase the output per worker, because no matter how low prices may be, the more the individual has to sell, the more he gets. The farmer is a "piece worker."

7. Because of Nos. 5 and 6, the general tendency will be for manufactured goods to be at a premium as compared with farm products. At times a reversal may occur but the average is likely to be in favor of manufactured goods.

8. The average buying power of labor will be high and the choicer kinds and grades of food will be high. The demand for clothing and homes will average high. But during the periods of unemployment these demands will be violently reversed.

9. Freight rates will probably lag because of No. 3 and high-priced materials No. 5. (See page 103.)

10. Retail prices will be high relative to prices paid to farmers. (See page 91.) If, however, any farm product sells at retail above the city wage basis, the price on farms will as usual be high relative to retail prices.

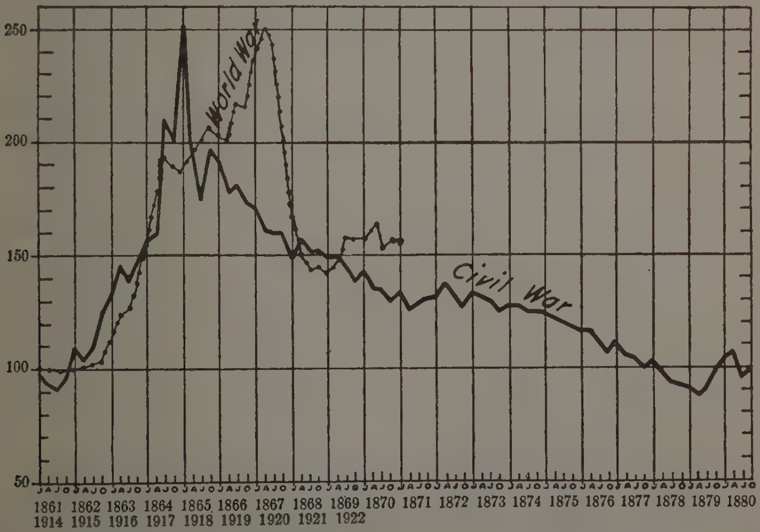

FIG. 1. WHOLESALE PRICES DURING THE CIVIL WAR AND WORLD WAR PERIODS (FOR THE CIVIL WAR 1856 TO 1860 = 100, AND FOR THE WORLD WAR 1910 TO 1914 = 100)

Following the World War, prices did not fall so soon as after the Civil War, but they fell more precipitously and fell farther.

Thus far the prices of the World War and Civil War periods have shown considerable similarity. Will this similarity continue?

11. The advantages of producing home food supplies will be greater than usual because of the great discrepancy between the prices at which farmers sell and the prices at which they buy. Many farmers can make a drastic reduction in expenses by raising their own food.

12. The advantages of retailing or otherwise cutting around some of the channels of trade are greater than formerly because all such channels are on a 200 wage basis. Large numbers of New York farmers are taking advantage of this change and some of them are doing very well. The majority of farmers must always sell at wholesale.

13. New York agriculture will suffer less than western agriculture. Farmers who are able to sell direct to consumers or wholesalers will suffer least or may do very well. (See Nos. 3 and 9.)

14. The tendency for products that are easily and cheaply shipped to leave New York State will be increased. Butter production is rapidly expanding in western states.

15. The importance of saving labor will be greater than usual.

16. For some men No. 15 means tractors, trucks, milking machines, better barn arrangement, driving more horses per man, etc., but always remembering No. 1.

17. Organizing and planning the work are of more importance than usual. Repairing machinery in winter, using memoranda for work plans, and other methods of saving time are more important than formerly.

18. Large farms have less advantage than formerly, but whatever the labor force, the business should be up to the full capacity of the force.

19. Large average yields should be obtained by ceasing to operate the poor land rather than by expensive methods. The losses from using the poor land will be greater than usual. More land may be used for pasture or the poorest may be left to grow Nature's green manure crops. Farmers on poor land will do more outside work for wages. Many such farmers in New York are working full time at some other occupation.

20. Price fluctuations will be more violent than normal. Because of low profits and erratic prices, farmers will be more than usually inclined to rush from producing the low- to producing the high-priced things. The losses from this will be more than normal. (See page 99.) The profits from buying the low-priced things before an upswing in the price will be more than usual. Probably every year some products will be high. It is the average of agriculture that is likely to be low.

21. Taxes will lag and be high. (See page 100.)

22. Payments of interest and principal will lag and be high. Those debts that cannot be paid should be converted to long-time obligations such as Land Bank mortgages.

23. Cooperative associations will be subjected to severe strain both because of business conditions and because of general farm discontent. They should be careful about reserves.

24. The wise procedure for farmers of different ages, for those with different amounts of family labor, and particularly for

those with different amounts of debts will differ decidedly. The man who is out of debt may continue to improve his farm and operate much as usual, expecting that the day will come when he will be rewarded. The man who is heavily in debt must give primary consideration to the date when the reward for each expenditure will come, rather than the certainty of the reward. Few rules can be made that are desirable for universal application, except to be more than usually alert for both opportunities and dangers.

25. The most striking influence of a period of depression and erratic price relationships is in a redistribution of wealth. Property is taken from those who have earned it and given to those who have not. When a young man puts his lifetime earnings into the purchase of a farm and loses the farm because of a change in the value of money, the farm is still there but there is a new owner. When prices again become adjusted the new owner profits by the change.

26. There will be many opportunities to buy farms, stock, etc., at very low prices. Such opportunities for farmers who are out of debt will be very good.

27. The effects of such a period are much more severe on individual welfare than on the welfare of agriculture as an industry. But while the industry is affected more slowly it is affected just as surely. The most serious result is the disrepute into which an industry falls when for a time it so universally bankrupts the young men who enter it with debts. The development and expansion of agriculture is being checked. When the world again becomes settled and again accumulates wealth enough to require an expansion of agriculture, it is to be expected that there will be a long period of high-cost-of-living until agriculture again gets started.

28. The young man who is ready to start farming at the time when the depression is most severe will have very good opportunities. Some one will own all the farms when the tide turns and the property will then be valuable.

PRICES OF INDIVIDUAL FARM PRODUCTS

The assumption that present price relationships are likely to continue is the most common and most fatal error in making price comparisons. The only safe assumption is that if one farm product is high relative to another their positions are likely to be reversed rather than continued in unstable equilibrium.

Horses—There are very strong cycles of over- and under-production of horses. (See Bulletin 416, page 21.) The period of rising and of falling prices each usually lasts 10 to 15 years. In the present cycle horses reached the peak in 1911. Since then they have declined nearly 50 per cent. The number of horses on farms has declined from 21,555,000 January 1, 1918, to 18,263,000 on January 1, 1924. It is to be expected that the tide will soon turn and that in 5 to 6 years horses will again have their usual price ratio to other farm products and that in 10 to 12 years horses will be high in price. Those who are buying horses should buy young ones as they may live to be valuable. In the horse producing centers the shift should be made to good young mares so as to be ready to raise colts.

Beef Cattle—There is a tendency for prices of beef cattle to rise for about seven years and fall for an equal time. The purchasing power of such cattle was at a peak in 1915 and has since been declining. In November, beef cattle prices were the same as the five-year pre-war average. The index number rose slightly in January and it may be that the tide is ready to turn. If so, beef cattle may be expected to show a general improvement in prices for the next few years.

Hogs—Hogs also show strong cycles of over- and under-production. The period of greatest over-production now seems to be passed. Last June, the farm price of hogs was 11 per cent below the five-year-pre-war average. In January, it is still 6 per cent below the pre-war average. The number of hogs on farms January, 1921, was 56,097,000. It increased to 68,227,000 in 1923. This year the estimate is 65,301,000. Judging by past experience, the low prices will so decrease production that hogs are likely to be high in price in two or three years.

Poultry—At farm prices, as a five-year average before the war, 4.1 dozen eggs or 7.7 pounds of poultry would buy a bushel of wheat. In 1923, it required only 3.3 dozen eggs or 5.2 pounds of poultry. Naturally this has resulted in a great wave of interest in poultry. Owing to high wages the demand is high and thus far the supply has not broken prices. It is, of course, not to be expected that any such favorable ratios of eggs to feed will continue. Great losses are certain to occur by the promiscuous and ill-advised entry into this industry in the expectation that the abnormal ratios of feed to product will continue. Fortunately, for those who follow poultry production as a regular business the losses from roup, chicken-pox and neglect are so serious as to eliminate much of the unwise competition of those who rush from one industry to another usually arriving just in time to help break the market and themselves. With wages high and food cheap, the outlook for production of the best grades of nearby hennery white eggs is better than the outlook for western production of eggs that go through cold storage. The outlook for the man who ships his own eggs is better than for the one who must pay many intermediate handlers.

Dairy Products—Since horses, hogs and beef cattle are all at the bottom of cycles of over-production, and since dairy products and poultry are high in price, there is a strong tendency to enter the dairy industry. The number of dairy cows in the United States is increasing at the same time that hogs, beef cattle and horses are decreasing. The number of dairy cows in the United States January, 1914, was estimated at 20,737,000. For January, 1923, it was 24,437,000. This year it is estimated at 24,675,000. No better market for dairy products than that of the past year can be hoped for. During that year, there was full employment at high wages. If dairying is really expanded as farmers of the West are advised to expand it, the favorable price ratios of butter to other farm products will be reversed.

Cotton and Wool—The cotton crop of 1923 was very short. The high prices are stimulating efforts to expand the industry and are stimulating efforts to weevil control. The demand for both of these products was very high due to full employment at high wages, and cheap food, and to the reaction from the previous period of unemployment when clothing supplies were depleted. There is no reason for expecting these products to remain so far out of adjustment with other farm products.

Wheat—Wheat prices are low relative to corn and very low relative to butter. The wheat acreage is too large but the present malajustment in prices cannot be expected to continue. (See Farm Economics No. 6.)

Diversification—One of the good types of farming in wheat regions in many parts of the West is the combination of beef cattle that may be milked so as to get a little cream, and the raising of colts and wheat. This is diversified farming, but it happens that the prices of all these products are very low. In the wheat regions, the beef producers are in as bad straits as are the wheat growers, and horses are practically unsalable. The price of horses in New York is just about equal to the cost of shipment.

In 1921, farmers of that region were urged to greatly expand the potato acreage because the unfavorable weather of the previous year made potatoes high in price. Those who plunged heavliy in potatoes only added another disaster to their list. Now eggs and butter are high, and farmers are urged to go into dairying and egg production. Some gradual expansion of both of these industries may be desirable, but a wild shifting from beef and colts to dairying and eggs is likely to be followed by an equally wild shifting back again. For such regions it is more important to find a way of saving the good young brood mares and good young heifers than to have the farmers exhaust their remaining credit to start the production of things that happen to be higher in price. Types of farming should be adapted to natural conditions and opportunities through a series of years, not to prices of the day.

Apparently there is no campaign for diversification in the cotton country this year, but after a year of high prices is the very time when there is danger of producing too much cotton.

WAGES OF FARM AND CITY LABOR

Wages of farm labor are a compromise between the prices of farm products and the wages in other industries. Near industrial centers and at times of full employment they approach industrial wages. Further from such centers they approach the prices of farm products in the region. Farm wages in North Dakota in 1920 were higher than in New York, but in 1923 they averaged 34 per cent above the five-year pre-war average while the New York average was 85 per cent above pre-war. On farms within a few miles of industrial centers, the index numbers for farm wages are practically the same as for city wages.

The average price of farm products in New York in 1923 was 42 per cent above pre-war. Farm wages were 85 per cent above pre-war so that farmers who attempted to farm with hired labor were in very serious difficulty. From the hired man's standpoint farm wages were very low, for the earnings of factory workers in New York were 114 per cent above pre-war.

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WAGES OF FARM AND CITY LABOR

Wages of male farm labor by the month with board—1910-14=100						Union wage rates per hour United States 1910-14=100	Earnings New York factory workers June, 1914=100
	No. Dakota	Iowa	Ohio	N. Y.	U. S.		
1915	106	106	105	103	104	105	101
1915	106	106	105	103	104	105	101
1916	110	116	118	120	113	109	114
1917	136	140	143	143	141	116	129
1918	173	170	164	163	170	136	160
1919	186	187	182	176	194	158	185
1920	233	226	221	221	228	203	222
1921	133	135	154	163	147	209	203
1922	129	125	150	162	142	197	197
1923	134	148	170	185	162	215	214

DEBT PAYMENT

Farming is not incorporated. It is a personal industry. The time at which a farmer enters the industry is dependent on the time when he was born. Most of those who bought farms during the period of high prices were thrifty young men who invested their life-time savings and went heavily in debt. They did not have time to get out of debt before the drop came. In 1920, of the farm operators who were under 25 years of age only 10 per cent were full owners and free from mortgage debt. Only 17 per cent of those from 25 to 30 years of age were full owners free from mortgage. During the period of rapidly rising prices many thrifty young men saved money more rapidly than usual and hence the number who purchased farms was abnormally large. If for a period prices are doubled, debts are doubled not because men who own farms borrow for foolish expenditures, but because every new purchase of land, stock and tools is on the new price basis. A young man who buys equipment or a farm and pays a half down (which would be a very high payment) finds his life-time savings completely exhausted if prices drop a half. Farmers who are out of debt can get along fairly well. It is the payment of debts and taxes that is the primary difficulty just as it was in the period of declining prices following the Civil War. Debts that cannot be paid should so far as possible be converted to long-time obligations such as Land Bank mortgages. Those who are interested in a more thorough discussion of this problem will find it in the Quarterly Journal of Economics for February, 1924.

TAXES

Public and private debts contracted at the high price level are the most serious problems for consideration when prices decline rapidly. Public debts find their expression in taxes. Furthermore, wages for teachers and all other public servants lag behind prices. They are so easy to pay when prices are rising that there is a temptation to vote bond issues for improvements. The wages also lag when prices are falling so that they are hard to pay at the very time the bonds become a burden.

On dairy farms in Chenango County, New York, in 1921 E. G. Misner found that the receipts less business expenses other than taxes amounted to $795 per farm. Taxes were $161 or 20 per cent of the income. Calculated in the same way taxes for farms in Ohio, Indiana, and Wisconsin before the war averaged 9.8 per cent. The income rose so much faster than taxes that in 1918 taxes were only 6.7 per cent. Taxes rose and income dropped so that in 1921 taxes took 33 per cent of the income (U. S. D. A. Yearbook, 1922, p. 7). The index number for taxes per acre for farms in the United States in 1922 was 226 when 1914 = 100 (U. S. D. A. Yearbook 1922, p. 1002).

Taxes are most serious in the marginal regions. In such regions the income and the land values are very low. The number of schools needed for a given area is as high as in good regions if the schools are to be in walking distance. Roads are also an excessive burden even though the roads like the schools are very poor. Records for 146 farms in one township were obtained for 1923, 66 of the farms were uninhabited in 1923. Taxes were obtained for 71 farms. The taxes averaged 3.4 per cent of the market value of the farms. (Few of the farms could be sold for the values used.) On 6 farms the taxes were over 10 per cent of what the farmers thought the market value ought to be. There is, however, no real market value when taxes are so high as it is very difficult to sell such farms.

FARMERS INTERESTED IN HIGH PRICES

Since farming is an industry with such a slow turnover it takes years to pay farm debts. This principle is recognized by the banking system which allows agricultural paper to run for a longer period than commercial paper and allows farm loans to run 33 years. Furthermore, taxes which are very slow to fall are heavier on agriculture than on other industries. Since for the young men who entered the industry in recent years, debts and taxes are the primary problems, it is not the relation of prices of farm products to other conditions that is of primary concern. It is the purchasing power of farm products to buy tax receipts, interest receipts, and debt payments that is of primary importance. A decline in prices of other commodities to the level of farm prices would not solve the difficulty. For agricultural prosperity a price level as high as the level at which the bulk of the public and private debts were incurred and adjustment of farm prices with the prices of other things are necessary. Of the two, the former is more important. W. I. Myers found the debts in Tioga County, New York, remaining unpaid in 1922 were incurred when the price level averaged 79 per cent above pre-war. Only a small percentage of the indebtedness was incurred since the panic of 1920 because farms are practically unsalable. The average for the United States is probably about 75 per cent above the pre-war prices.

G. F. Warren.

HOW FARMERS ARE FINANCING THEIR FARM OPERATIONS

W. I. Myers and L. Spencer

A study of farm credit conditions in New York State was made during the fall of 1922. Visits were made to farmers, bankers and country merchants in Tioga County, a dairy farming region; and in Genesee County, a prosperous crop farming region. The greater amount of borrowing from banks in this region was due almost entirely to borrowing to buy feeder lambs. (Table II.) Studies were made also in Jefferson County, a dairy farming region in northern New York.

TABLE I—Farm Credit

	Tioga	Genesee
Number of farmers	107	102
Percent of farmers keeping checking accounts	54	70
Percent of farmers keeping no bank account	34	20
Percent of farmers who had borrowed at banks during the year	14	31
Percent of farmers who had made purchases on account during the year	85	90
Percent of year's farm expenditures paid for in cash without borrowing	63	66
Percent of year's farm expenditures that ran on account	27	17
Percent of year's farm expenditures paid for by notes	10	17

TABLE II—Sources of Farm Credit

	Tioga	Genesee
Percent of total credit for year obtained by "store accounts"	73	49
Percent of total credit for year obtained by notes to others than banks	19	24
Percent of total credit for year obtained by notes to banks	8	27
Total	100	100

TABLE III—Costs to Merchants of Credit Extended

	Number of stores	Credit cost in percent of credit sales	Rate of credit cost in percent per year
Feed Stores	43	4.6	13.4
General stores	83	5.0	19.6
Hardware stores	25	7.6	14.7
Implement stores	14	6.0	10.6
Farm Supply stores	16	5.9	13.2
Blacksmiths	10	5.7	21.8
Total	191	......	......
Average	.....	5.3	13.8

TABLE IV—Items of Credit Cost

	43 feed stores	83 grocery and general stores	14 implement dealers
Interest	6.0%	6.0%	6.0%
Accounting	3.0	6.5	2.0
Supplies	0.6	1.1	0.3
Collection	1.1	1.4	0.6
Bad Accounts	2.6	4.6	1.7
Total	13.4	19.6	10.6

These studies show that banks can extend credit more efficiently than stores. The business of the feed store is to sell feed. It is equipped to do this work and can do it effectively. An important part of the business of banks is selling credit. They are equipped to do this and by exercising greater care as to the character and resources of their borrowers' banks practically eliminate the costs of bad debts and of collection. It is therefore good business for a farmer to—

1. Buy for cash and get cash discounts.
2. Buy in quantity and get quantity discounts.
3. Buy when the commodity is cheap.
4. Borrow at the bank, if necessary.

FREIGHT RATES

Harry S. Gabriel

For several years just prior to the war freight rates had been maintained at a fairly constant level. In 1914 the Interstate Commerce Commission granted an increase of 5 per cent on practically all rates north of the Ohio and Potomac rivers and east of the Mississippi river. In 1917 rates in the same area were increased approximately 15 per cent. On June 25, 1918, the Federal Railroad Administration advanced rates 25 per cent over the entire United States. On August 26, 1920, the most radical adjustment in history was made. In the northeastern states rates were increased 40 per cent; in the west 35 per cent; in the far west and in the south 25 per cent, while on freight moving between the various sections the advance was 33 1/3 per cent.

In addition to the increases just mentioned, there were two other important freight rate changes. These were the two 10 per cent decreases of 1922, one of which was on agricultural products and the other on non-agricultural products. While these percentage changes do not give a complete picture of all freight rate changes, they do give a general idea of the comparative status of freight rates at any given time. Throughout the entire period minor rate adjustments have been made. An example of this is the railroads' voluntary reduction on ground limestone in New York during the year 1921. Because of these minor readjustments most of which were reductions, the average rates are less than the sum of the percentage charges would indicate. Calculations of index numbers from actual freight rates on a limited number of commodities confirm this conclusion.

TABLE V—Major changes in freight rates for different sections of the United States for shipments between points within the region, 1913 = 100

Date	Northeast	West	Far West	South
January 1, 1913	100	100	100	100
" 1, 1914	100	100	100	100
" 1, 1915	105	100	100	100
" 1, 1916	105	100	100	100
" 1, 1917	105	100	100	100
" 1, 1918	121	100	100	100
" 1, 1919	151	125	125	125
" 1, 1920	151	125	125	125
" 1, 1921	211	169	156	156
" 1, 1922*	211	169	156	156
" 1, 1923	190	152	140	140

*Rates on agricultural products were reduced 10% on this date.

The average revenue received for hauling a ton of freight one mile as reported by the Interstate Commerce Commission furnishes another method of estimating the charges in freight rates.

TABLE VI—Index numbers of revenue per ton mile, 1913 = 100

Date	East	West	South
1913	100	100	100
1914	100.8	100.9	99.1
1915	102.9	99.3	94.8
1916	103.5	94.6	92.3
1917	105.6	93.2	94.2
1918	129.5	106.8	112
1919	145.5	124.2	129.5
1920	162.4	132.4	134.9
1921	197.9	160.9	160.4
1922	186.6	146.2	146.7
1923	176.1	137.7	142.6

Owing to the wide variations in the freight rate levels in different sections of the country, it is difficult to construct one index number which will accurately represent the entire Country. The United States Department of Agriculture, however, constructed such a number which gives a general idea of the level of freight rates for the United States as a whole. They found the index number to be 159 at the end of 1922.

FARM ECONOMICS

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No. 12—March, 1924

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level U. S. Bureau Labor Statistics	Fisher[1]	Prices of 10 basic commodities Harvard	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
1923	157	161	163	152	95	126	214
June, 1922	153	....	143	150	84	121	196
July	158	....	155	152	77	125	195
August	158	....	163	157	70	130	198
September	156	....	160	160	69	151	202
October	157	....	172	161	73	156	202
November	159	....	170	153	81	152	205
December	159	....	171	156	87	142	208
January, 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	87	97	218
December	154	154	153	151	92	93	220
January, 1924	154	154	153	156	100	92	219
February	....	157	153	....	....	....	....

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

INDEX NUMBERS OF BUSINESS CONDITIONS

	General Price Level U. S. Bureau Labor Statistics	Fisher	10 basic commodities Harvard	Farm prices U. S.	Price paid to farmers for foods U. S.	Prices industrial stocks
War peak	252	252	293	241	232	183
Low point of panic	141	136	113	108	113	107
High last spring	162	170	178	139	126	167
Present	154	157	153	142	122	156
Present movement	Unchgd	Up	Unchgd	Down	Up	Up

Wholesale prices of "all commodities" rose in February but according to Fisher's index are declining in March. The stock market has risen decidedly since last fall. Continued moderate business activity is to be expected for some months.

AGRICULTURAL CONDITIONS

Index numbers of prices for the major farm products—cotton, wheat, potatoes, hogs, declined in February. Butter and eggs rose and beef cattle were stationary. As a whole, agricultural prices declined while other prices rose.

Of the twenty-six farm products given on pages 108 and 109, only seven are as high as the average level of wholesale prices. These are beans, cotton, onions, chickens, butter, lambs, and wool. There is a strong tendency for farmers to increase the production of these products.

All but seven of the twenty-six products were lower in price than the general price level and all but cotton were below the level of city wages.

Other important products that are so low as to check production are hogs with an index number of 92, beef cattle 107, wheat 110.

Of the entire list, horses are in about the worst position. In Montana, which is an important horse producing state, the average farm price of horses in February for the five years 1910-1914 was $134 per head. In February, 1924, the average was $44. Yearling colts were worth only $12 per head on January 1. Horses are not so low in the eastern states because these are horse consuming states and prices must include the cost of shipment from the West. On New York farms, horses average $120 per head or 69 per cent of the pre-war average. Western farmers have made a number of attempts to ship horses to the East, but freight and handling charges absorb most of the receipts.

In New York, the price of milk fell so much that the price index for all farm products in January was only one point above the worst month of the panic period. Prices paid to New York farmers average 23 per cent above the pre-war level. Earnings of factory workers were 119 per cent above the pre-war level. Vigorous curtailment of expenses seems to be the only policy for farmers who are heavily in debt and who are selling general farm products. Many farmers who are producing luxuries or specialties that appeal to consumers when the buying power is high, are doing very well because some such special products are high in price. For such farmers the conservative procedure is to pay debts as rapidly as possible, Prices paid by New York farmers for feed are much higher than prices of milk. Cottonseed meal costs farmers 60 per cent more than before the war, bran costs 31 per cent more and milk in January sold for 14 per cent above the pre-war average. As in all cases where the price is low, it is much lower to producers than to consumers. The index number for the price of bran at Buffalo is 121, but the price paid by farmers is 131.

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

Year	Farm Prices		Prices of Food in the United States		
	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
1923	142	137	122	143	151
January, 1922	142	117	119	130	146
April	132	123	125	136	143
May	138	126	129	137	143
June	138	129	129	139	145
July	141	129	126	141	146
August	125	125	120	137	143
September	124	119	113	137	144
October	122	122	117	139	147
November	131	129	120	142	149
December	136	134	124	143	152
January, 1923	127	137	126	140	148
February	132	136	123	140	146
March	133	138	123	142	146
April	143	139	122	143	147
May	148	138	124	143	147
June	163	134	121	141	148
July	157	134	120	140	152
August	149	129	118	141	151
September	151	133	122	146	154
October	147	138	123	147	155
November	143	141	122	147	156
December	135	143	123	146	155
January, 1924	123	143	121	142	154
February	....	142	122	....	....

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[1] From United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

AVERAGES FOR 34 MONTHS

Prices paid to farmers for food	122
Prices of food at wholesale	140
Prices of food at retail	150

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Corn, bu.	Dec.	.727	1.00	124	133
	Jan.	.736	.98	126	136
	Feb.	.765	.97	129	137
Oats, bu.	Dec.	.415	.55	107	117
	Jan.	.434	.53	113	118
	Feb.	.454	.55	115	117
Wheat, bu.	Dec.	.923	1.10	107	112
	Jan.	.967	1.10	111	111
	Feb.	.980	1.15	110	115
Barley, bu.	Dec.	.540	.75	89	100
	Jan.	.565	.75	92	100
	Feb.	.580	.78	91	104
Rye, bu.	Dec.	.647	.91	87	112
	Jan.	.635	.80	89	103
	Feb.	.645	.80	89	104
Buckwheat, bu.	Dec.	.933	.96	131	133
	Jan.	.927	.95	131	134
	Feb.	.925	.93	130	129
Flaxseed, bu.	Dec.	2.108	....	136	....
	Jan.	2.188	....	135	....
	Feb.	2.249	....	132	....
Beans, bu.	Dec.	3.44	3.90	150	160
	Jan.	3.49	3.60	155	154
	Feb.	3.56	3.80	160	162
Cotton, lb.	Dec.	.310	....	254	....
	Jan.	.325	....	264	....
	Feb.	.314	....	257	....
Hay, ton	Dec.	13.05	16.20	106	106
	Jan.	13.59	16.90	116	111
	Feb.	13.60	16.00	113	105
Onions, bu.	Dec.	1.78	1.81	176	221
	Jan.	1.81	1.78	176	220
	Feb.	1.83	1.58	162	178
Potatoes, bu.	Dec.	.823	.95	136	148
	Jan.	.864	.90	138	141
	Feb.	.881	.91	134	132
Sweet potatoes, bu.	Dec.	.979	....	136	....
	Jan.	1.125	....	143	....
	Feb.	1.237	....	148	....
Apples, bu.	Dec.	1.022	1.32	133	178
	Jan.	1.213	1.10	125	136
	Feb.	1.250	1.10	121	126
Horses, head	Dec.	75.00	120.00	55	68
	Jan.	73.00	120.00	53	69
	Feb.	74.00	120.00	52	69

PRICES PAID TO PRODUCERS (Continued)

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Chickens, lb.	Dec.	.173	.23	160	167
	Jan.	.175	.23	164	169
	Feb.	.182	.23	167	164
Eggs, doz.	Dec.	.478	.65	159	159
	Jan.	.354	.44	120	116
	Feb.	.336	.43	128	134
Butter, lb.	Dec.	.457	.53	161	156
	Jan.	.449	.53	158	156
	Feb.	.444	.52	163	158
Milk, 3.7%	Nov.	....	2.58	....	137
Pool price (Utica)	Dec.	....	2.40	....	126
	Jan.	....	2.17	....	114
Milch cows, head	Dec.	54.66	70.00	109	124
	Jan.	55.57	70.00	118	130
	Feb.	55.49	68.50	116	126
Beef cattle, cwt.	Dec.	5.26	5.20	101	96
	Jan.	5.38	5.00	107	95
	Feb.	5.47	5.30	107	100
Veal calves, cwt.	Dec.	7.75	10.90	112	124
	Jan.	8.36	11.50	123	136
	Feb.	8.51	11.60	126	138
Sheep, cwt.	Dec.	6.39	6.00	146	138
	Jan.	6.71	5.00	146	120
	Feb.	6.82	5.60	150	133
Lambs, cwt.	Dec.	10.10	11.10	178	180
	Jan.	10.19	11.30	176	176
	Feb.	10.53	11.80	177	184
Wool, lb.	Dec.	.362	.42	209	200
	Jan.	.366	.44	198	200
	Feb.	.375	.44	203	200
Hogs, cwt.	Dec.	6.39	8.20	95	112
	Jan.	6.59	7.50	94	101
	Feb.	6.54	7.60	92	101

PRICES PAID BY FARMERS

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Bran, ton	Dec.	....	37.40		138
	Jan.	....	37.30		136
	Feb.	....	37.00		131
Cottonseed meal	Dec.	....	57.50		171
	Jan.	....	56.00		165
	Feb.	....	55.10		160

CARLOAD PRICES OF FEED AT BUFFALO

5 year average price	Bran	Standard Middlings	White Hominy	Gluten feed	Linseed oilmeal 31%	Cottonseed meal 36%
Jan., 1910-1914......	24.44	24.57	26.40	28.74	33.04	31.32
January, 1924.........	29.50	29.50	35.00	43.54	45.88	47.49
Index numbers	121	120	133	151	139	152

DAIRY PRODUCTS

The demand for dairy products continues to be high and may be expected to so continue as long as there is full employment at high wages. A good demand does not necessarily mean a high price. It means that any given quantity of a product will be consumed at a price that is high for the quantity. A normal quantity would be taken at a high price. An abnormally high quantity will not depress prices as much as usual.

The distressed state of agriculture in western states has encouraged dairying. The dairy cow offers a chance to concentrate a large amount of coarse feed and grain into a small volume for shipment. The price of butter compared with grain, and the high freight rates have stimulated this movement. Like all such swings in type of farming, it is likely to be overdone. The Department of Agriculture gives the total production of butter for 3,457 plants and of condensed and evaporated milk for 485 plants for July, August and September for the past two years as follows:

	1922	1923
Butter	344,000,000	360,000,000
Condensed and evaporated milk	359,000,000	472,000,000

Horses, hogs and cattle other than dairy cows decreased during the past year but dairy cows increased. The number declined slightly in the North Atlantic states but increased enough in other regions particularly in the West to make an increase of one per cent for the United States. In the past two years, the increase was from 24,082,000 January, 1922, to 24,675,000 January, 1924.

The city milk markets are feeling the keen pressure of the butter, cream and condensed milk of the western states. In the districts contributing to Chicago, Boston, New York and Washington there are serious problems concerning prices at the present time. Legislation is now pending in Congress to lend money to farmers of the Northwest for further expansion of the dairy industry. One of the serious results of a severe agricultural panic is the tendency to rush from one thing to another. As a result the losses are usually increased. How serious the over-production may be, depends on the extent to which farmers are forced into dairying by the losses on other farm products.

The imports of butter and butter substitutes in 1922 amounted to 7,000,000 pounds and in 1923 were 24,000,000 pounds. The exports of butter in 1922 were 11,000,000 pounds and in 1923 were 6,000,000 pounds. This makes the net exports for 1922, 4,000,000 pounds and net imports for 1923 18,000,000 pounds.

POULTRY

The reaction from the disastrous war years, the cheap feed compared with the price of eggs, high freight rates and good demand for eggs have all combined to cause an expansion of the poultry industry. The number of chickens produced, chickens on farms, and production of eggs are given by the Department of Agriculture as follows:

Year	Number of chickens January 1	Number of chickens raised	Dozens of eggs produced
1919		473,000,000	1,645,000,000
1920	373,000,000	475,000,000	1,647,000,000
1921	371,000,000	550,000,000	1,888,000,000
1922	423,000,000	579,000,000	1,971,000,000
1923	440,000,000	654,000,000	2,196,000,000
1924	492,000,000		

In 1919, the number of poultry was low as a result of the years when feed was extremely high relative to eggs. There has been an enormous increase in chickens in the past three years.

The demand for eggs and poultry is high and may be expected to continue high so long as there is full employment at high wages. Since wages may be expected to remain high for some years as they always do in a period of deflation, the demand for eggs may be expected to average high but will doubtless be violently reversed in periods of unemployment. The cheap wheat is stimulating production and there is serious danger of decided over-production unless the recent break in prices is sufficient to check reckless expansion this year.

With wheat so near the pre-war prices it would seem to be desirable for commercial poultrymen to provide a year's supply. Meat scrap at wholesale has also dropped close to the pre-war price. This is a welcome change to the poultrymen. Of course, either of these may go lower but the purchase of considerable supplies at present prices probably lessens the risk of the business.

GRAIN ON FARMS

The supplies of grain on hand are not strikingly different from last year. The percentage of the corn crop that is marketable is low and the demand as feed for the excessive supply of hogs is high. Farm prices of grains except wheat are higher than last year.

STOCKS OF GRAIN ON FARMS MARCH 1, AS ESTIMATED BY THE U. S. DEPARTMENT OF AGRICULTURE FROM REPORTS OF ITS CROP CORRESPONDENTS AND FIELD STATISTICIANS

	Year	Bushels on farms	Farm price (cents)	Percentage shipped out of county where grown
Wheat	1922	134,000,000	107	62
	1923	155,000,000	104	67
	1924	134,000,000	98	63
Oats	1922	412,000,000	35	24
	1923	421,000,000	42	25
	1924	445,000,000	45	25
Barley	1922	42,000,000	47	36
	1923	42,000,000	56	37
	1924	45,000,000	58	35
				Percentage of marketable quality
Corn	1922	1,306,000,000	50	88
	1923	1,093,000,000	73	88
	1924	1,153,000,000	77	81

The amounts of grain on farms March 1, plus the visible supply for February 23 (i. e. the supply in central elevators) were as follows:

	1923	1924
Wheat	203,000,000	198,000,000
Corn	1,119,000,000	1,168,000,000
Oats	450,000,000	462,000,000

ESTIMATED NUMBER OF PERSONS LIVING ON FARMS IN NEW YORK, FEBRUARY 1

Year	Persons Number	Ratio to preceding year Per cent
1917	897,912	....
1918	858,404	95.6
1919	824,068	96.0
1920	800,747	97.2
1921	784,652	98.0
1922	794,460	101.25
1923	762,364	96.0
1924	740,937	97.2

MOVEMENT OF MALE WORKERS TO AND FROM FARMS IN NEW YORK FEBRUARY 1

Year	Men and boys who left farm work for other kinds of work Number	Men and boys who left other kinds of work to work on farms Number
1918	24,216	15,700
1920	33,151	10,890
1921	39,782	16,242
1922	16,525	13,744
1923	33,925	8,157
1924	40,529	14,225

ESTIMATED NUMBER OF HIRED MEN ON FARMS IN NEW YORK FOR THE YEAR ENDING FEBRUARY 1

Year	Hired men Number	Ratio to preceding year Per cent
1916	76,988	....
1917	65,132	84.6
1918	53,599	82.3
1919	45,559	85.0
1920	37,768	82.9
1921	34,558	91.5
1922	34,593	100.1
1923	30,546	88.3
1924	27,498	90.0

[For method of calculating the above tables see *Extension Service News*, February, 1923.]

FARM ECONOMICS

Department of Agricultural Economics and Farm Management
NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 13—April 7, 1924

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Prices of 10 basic commodities Harvard	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
1923	157	161	163	152	95	126	214
Aug., 1922	158	....	163	157	70	130	198
September	156	....	160	160	69	151	202
October	157	....	172	161	73	156	202
November	159	....	170	153	81	152	205
December	159	....	171	156	87	142	208
Jan., 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	87	97	218
December	154	154	153	151	92	93	220
Jan., 1924	154	154	153	156	100	92	219
February	155	157	153	159	102	91	218
March	....	152	151	154	94	....	....

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

BUSINESS CONDITIONS

A very striking drop in index numbers of business conditions occurred in March. Fisher's index number of prices declined from 157 to 152, a drop of 5 points in a single month. For the last week of March it stood at 150.

The Harvard index for March 1 also indicated the beginning of a price decline. It is to be expected that this index will show a marked decline when the April 1 figure is available.

Prices of industrial stocks rose decidedly from the low point of 140 last October to 159 in February but dropped to 154 in March. The last week in March averaged 150.

PRICES OF FARM PRODUCTS

Prices paid to farmers for food products fell to 19 per cent above the pre-war level. Food at retail also declined. The ratio of prices to farmers for food of about one-fifth above pre-war as compared with food at retail at one-half above pre-war, which has lasted for three years, still continues. So long as wages remain at twice the pre-war and food at retail remains at one-half above pre-war the price to farmers will automatically remain at about one-fifth above pre-war.

During the month striking declines occurred in cotton and eggs. The figures are for March 15. When the April 15 figures are available they will doubtless reflect the striking decline in grains that occurred in the latter part of March. The farm price of eggs which for a long time has been high compared with wheat has been reversed. Eggs in March were 5 per cent below the five-year pre-war average for March. It may be fortunate that this decline has occurred as it may check some of the feverish expansion of poultry production.

Prices paid to farmers in New York again averaged 23 per cent above the pre-war level. Earnings of factory workers were 118 per cent above pre-war.

For some time milk had tended to hold up the New York average but the pool price for January and February was only 14 per cent above the pre-war level for those months. The actual cash received is even less as a part of the price is in certificates of indebtedness which are an investment and therefore are not available for making purchases, or paying taxes or debts.

In February, the food materials sold by American farmers would buy 80 per cent as much food at retail as the same quantity of farm products would have bought as a five-year average before the war. In exchange for all commodities at wholesale it had a purchasing power of 79. Since taxes are more than double pre-war, the tax-paying power of food as sold by farmers is not much over half the pre-war. For the purpose of hiring farm labor at the United States average wage, food as sold by farmers has a buying power of about 75. In New York, farm products have a purchasing power of 66 for payment of farm labor. This shows how much more efficiently than formerly the farmer must use labor if he is to pay the bill from farm products—so much more efficiently that only in rare

(Continued on page 118)

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

	Farm Prices		Prices of Food in the United States		
Year	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
1923	142	137	122	143	151
January, 1922	142	117	119	130	146
April	132	123	125	136	143
May	138	126	129	137	143
June	138	129	129	139	145
July	141	129	126	141	146
August	125	125	120	137	143
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March	....	136	119	....	....

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[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

AVERAGES FOR 35 MONTHS

Prices paid to farmers for food	122
Prices of food at wholesale	140
Prices of food at retail	150

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Corn, bu.	Jan.	.736	.98	126	136
	Feb.	.765	.97	129	137
	Mar.	.772	.96	128	135
Oats, bu.	Jan.	.434	.53	113	118
	Feb.	.454	.55	115	117
	Mar.	.462	.57	115	121
Wheat, bu.	Jan.	.967	1.10	111	111
	Feb.	.980	1.15	110	115
	Mar.	.988	1.15	111	115
Barley, bu.	Jan.	.565	.75	92	100
	Feb.	.580	.78	91	104
	Mar.	.600	.79	95	103
Rye, bu.	Jan.	.635	.80	89	103
	Feb.	.645	.80	89	104
	Mar.	.628	.85	88	109
Buckwheat, bu.	Jan.	.927	.95	131	134
	Feb.	.925	.93	130	129
	Mar.	.947	.96	134	135
Flaxseed, bu.	Jan.	2.188	....	135	....
	Feb.	2.249	....	132	....
	Mar.	2.237	....	129	....
Beans, bu.	Jan.	3.49	3.60	155	154
	Feb.	3.56	3.80	160	162
	Mar.	3.47	4.00	159	173
Cotton, lb.	Jan.	.325	....	264	....
	Feb.	.314	....	257	....
	Mar.	.277	....	223	....
Hay, ton	Jan.	13.59	16.90	116	111
	Feb.	13.60	16.00	113	105
	Mar.	13.63	16.00	113	103
Onions, bu.	Jan.	1.81	1.78	176	220
	Feb.	1.83	1.58	162	178
	Mar.	1.81	1.65	152	153
Potatoes, bu.	Jan.	.864	.90	138	141
	Feb.	.881	.91	134	132
	Mar.	.878	.91	131	134
Sweet potatoes, bu.	Jan.	1.125	....	143	....
	Feb.	1.237	....	148	....
	Mar.	1.290	....	147	....
Apples, bu.	Jan.	1.213	1.10	125	136
	Feb.	1.250	1.10	121	126
	Mar.	1.290	1.20	119	133
Horses, head	Jan.	73.00	120.00	53	69
	Feb.	74.00	120.00	52	69
	Mar.	75.00	122.00	52	69

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Chickens, lb.	Jan.	.175	.23	164	169
	Feb.	.182	.23	167	164
	Mar.	.189	.24	169	169
Eggs, doz.	Jan.	.354	.44	120	116
	Feb.	.336	.43	128	134
	Mar.	.204	.30	95	107
Butter, lb.	Jan.	.449	.53	158	156
	Feb.	.444	.52	163	158
	Mar.	.432	.51	167	165
Milk, 3.7%	Dec.	....	2.40	....	126
Pool price (Utica)	Jan.	....	2.17	....	114
	Feb.	....	2.07	....	114
Milch cows, head	Jan.	55.57	70.00	118	130
	Feb.	55.49	68.50	116	126
	Mar.	55.88	67.00	114	120
Beef cattle, cwt.	Jan.	5.38	5.00	107	95
	Feb.	5.47	5.30	107	100
	Mar.	5.63	5.60	106	108
Veal calves, cwt.	Jan.	8.36	11.50	123	136
	Feb.	8.51	11.60	126	138
	Mar.	8.43	11.30	122	135
Sheep, cwt.	Jan.	6.71	5.00	146	120
	Feb.	6.82	5.60	150	133
	Mar.	7.22	6.00	151	140
Lambs, cwt.	Jan.	10.19	11.30	176	176
	Feb.	10.53	11.80	177	184
	Mar.	11.22	12.20	180	189
Wool, lb.	Jan.	.366	.44	198	200
	Feb.	.375	.44	203	200
	Mar.	.382	.42	204	200
Hogs, cwt.	Jan.	6.59	7.50	94	101
	Feb.	6.54	7.60	92	101
	Mar.	6.63	8.00	89	103

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	January	37.30	136
	February	37.00	131
	March	36.80	131
Cottonseed meal	January	56.00	165
	February	55.10	160
	March	54.00	160

CARLOAD PRICES OF FEED AT BUFFALO

5 year average price	Bran	Standard Middlings	White Hominy	Gluten feed	Linseed oilmeal 31%	Cottonseed meal 36%
Feb.,1910-1914	24.71	24.67	26.28	29.09	33.21	30.53
February, 1924	29.00	29.50	34.00	40.24	41.50	45.10
Index numbers	117	120	129	138	125	148

(Continued from page 114)

cases can a profit be made if all the labor is hired. To hire carpenters or other city labor, food at prices paid to farmers has a buying power of less than 60. In New York it takes about twice as much milk or hay as it did before the war to pay a carpenter for repairing a barn or making a new one.

Apparently conditions continue to indicate the advisability of caution on the part of farmers who are heavily in debt. Drastic curtailment of expenses seems to be the safe course for most such persons. Practically every trade that is made with cities is at a great disadvantage. On the other hand, there are many chances to buy heifers, young horses, and farms at prices that are so low as to be very attractive to one who is able to buy without assuming too great a debt.

POTENTIAL DEMAND ON FARMS

Cities are building houses, buying autos, clothing, and the like on the basis of a 200 wage level with food costing only 50 per cent above pre-war. Any apparent equilibrium based on such erratic relationship is very insecure. If the desire for all these things based on such price relationship is fully met, the supplies must be far in excess of what the normal demand would be. When readjustment comes, it may be a very serious shock.

But farmers are not building many new houses or barns, and the old ones have mostly been neglected for the past four years. Fences are deteriorating, old machinery is being kept in use, fertilizers are used sparingly. The fertilizer and machinery manufacturers and others who have furnished farm supplies are in serious condition. They are neglecting improvements and may not be in a position to readily meet the future needs. When the inevitable reaction occurs, there will be a great demand for materials for repairs to farm property and for new machinery. Such a demand will have to supply not only the normal need but will have to make up for the accumulated deficiency. The longer the period continues the greater the deficiency will be.

The business boom of the past two years has been largely based on city building, automobile manufacture, and construction of railroad equipment. If prices of farm products can be raised there will follow a demand for farm things that will be stimulating to business. Or, if this occurs in a period of depression it will help to sustain business. Two-thirds of the population is consuming at a very unusual rate. But one-third is cutting consumption drastically. A rise in the price level would open up a new demand from this third of the people.

BUYING POWER OF BOND HOLDERS

According to the Bureau of the Census, the total public debts—national, state, county, municipal, and other, amounted to 7 billion dollars in 1912 and to 31 billion in 1922. If to this is added the corporation bonds and farm and home mortgages, it will be seen that a large part of the year's income is transferred to bond holders by payment of taxes and interest. These payments must all be made in a given number of dollars regardless of prices. Whenever the price level falls strikingly this has as blighting an effect on industry as it has had on agriculture for four years. At the same time, it furnishes a high buying power to those whose income is from bonds. A shift in the price level, therefore, has a decided effect on the demands for different classes of goods.

A rising price level is to the advantage of all active producers. It stimulates business. A declining price level depresses farmers and other producers, but is beneficial to bond holders. A price level as high as the average level of prices when public and private debts were contracted is necessary for sound progress.

PRICES OF HORSES

The Department of Animal Husbandry of the New York State College of Agriculture sold twenty-one horses at public auction on March 22, 1924. All the horses were broken and were well fitted and in good condition. There was a good attendance at the auction and many bidders. The following indicates the price tendencies:

A team of grade Percherons, 10 and 11 years years old, weighing 2,748 pounds, sold for $240. This team was shod and ready for immediate heavy work.

Six grade Percherons that were four years old and that weighed an average of 1,250 pounds, sold for an average price of $125.42 per head. Four grade Percheron mares three years old that averaged 1,076 pounds, brought $72.50 per head. All these were broken and all were shod.

Three mares, 12, 13 and 15 years old, average weight 1,474 pounds, with young colts averaged $84.17 for the mare and colt.

Considering the fact that horses are now in the low part of the horse cycle, it would appear that for most farmers the 3-year old mares at $72 would be the best purchase. The horses that are older and ready for immediate heavy teaming are worth more for contractors' work than they are to farmers. The mares with colts could do little more than the three-year olds and would probably be of little value by the time their colts are grown, but in the meantime there would be two animals to feed. The three-year olds would appear to be a better buy than these for most farmers.

VALUE OF PLOW LANDS

The United States Department of Agriculture reports for the values of plow lands indicate that by 1916 farm lands in the United States were worth 31 per cent more than for the five-year average 1910-1914. The advance in the general price level was 30 per cent. Farm lands, therefore, were stationary in price when measured in terms of many commodities rather than in terms of one commodity (gold). From 1916 to 1918 farm lands advanced much more slowly than the general price level. When the secondary financial inflation occurred in 1919, the belief that prices would never fall became general, just as the belief has now become general that city houses will never again be cheap. In each case a land boom developed.

Prices of plow lands in the United States rose from $58 per acre in 1916 to $68 in 1918 and to $90 in 1920. They declined to $64 in 1924, or are practically down to the 1916 level. The decline in 1923 was slight.

In New York State the rise in land prices was much less. The average value of plow lands per acre was $53 in 1916, rose to $64 in 1920 and has now fallen to $54. For this reason the young men who started farming in New York after they returned from the war have lost less heavily than have those who bought farms in western states.

On the face of it, the prices as reported indicate that farms are worth slightly more than in 1916, but when prices are rising it is easy to sell at the price level, while when prices are falling there are few buyers and anyone who must sell is very fortunate if he can obtain anywhere near the quoted level of prices. In most regions there are practically no buyers as the tenants and young hired men who furnish the usual market for farms are unable to buy. Most of the transfers that are made are transfers to creditors. Of course, farm land will again become salable in time. Good land is one of the soundest investments. It can no more remain at the depth of depression than it could remain at the height of the boom, but there is at present no assurance that the bottom has been reached. Prices of farm products must turn upwards or farm land will continue to decline.

A GOOD TIME TO PREPARE FOR FARMING

This is a good time for a young man to prepare for farming. One who studies agriculture now probably will be ready to start farming when he can buy a good farm business at a low price. From the long-time point of view farming promises as desirable a mode of life as ever. The present panic is causing the loss of the life-time savings of thousands of thrifty persons who happened to start farming too recently to be out of debt, but the man who begins when prices are at the bottom may actually profit by the disaster to agriculture.

Wages are good so that one can earn money rapidly during vacations. Probably it will be a long time before there is a better opportunity to save money out of wages, provided the worker is willing to go without some of the things that are not necessary for his health or education. Many persons always spend all they earn as soon as they get it, if they have not spent it before. They prefer temporary pleasure to future happiness, or may be carried along by their associates rather than control their own lives. The young man who plans to be a farmer must have more self-control. He must pass by the shop windows, see things that he desires and keep his money in his pocket, because he wishes to save it for future needs. One who plans to control his own destiny rather than always depend on some one else for his income should keep an account of his receipts and expenditures and occasionally go over the expenses and see which of them he would now prefer to exchange for the cash that they cost. The safest investment of time and money for a young man is an education. We hear men regretting all kinds of expenditures and mistakes of the past. Have you ever heard a man regret that he studied so long?

G. F. Warren

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BUSINESS CONDITIONS

A recession in business activity began early in 1923. In the latter part of the year, activity increased somewhat, but since that time business has declined. Fisher's index number reached a peak of 170 in April last year. It declined to 149 in April this year, a drop of 21 points. Dun's and Bradstreet's index number for May 1 were each 1 per cent below April 1. The Harvard index which includes ten sensitive basic commodities was 178 in April, 1923, and declined to 144 this year, a drop of 34 points.

Prices of industrial stocks fell from 155 in March to 147 in April. A year ago, they stood at 167, so that the total decline has been 20 points.

Reaction has taken place in the lumber, copper, cement, auto, coal, textile, iron and steel industries.

Perhaps the most important feature of the month is the reduction of the discount rate by the Federal Reserve Bank of New York from 4½ to 4 per cent. Normally the discount rate has a marked influence on business activity but the results are usually not apparent for some time. At present there seems to be no indication that business activity is likely to increase materially before next year.

PRICES OF FARM PRODUCTS

Prices of farm products in New York in March averaged 25 per cent above pre-war. The pool price of 3.7% milk at Utica in March was $2.05. This was not as great a decline from the price in January and February as normally takes place, so that the index number of the price for March compared with the five-year pre-war average rose from 114 in January and February to 122 in March. This accounts for the slight improvement in the general level of prices paid to farmers in March as compared with February.

The weighted index number of prices paid to producers of farm products in the United States in April was 135, a decline of 8 points since January. For the major farm products, the prices in April when compared with April for five years before the war were as follows: Corn 126, wheat 108, hay 113, potatoes 134, eggs 112, butter 159, beef cattle 106, hogs 88, horses 52, cotton 231, wool 213. None of these important products except wool, cotton and butter are as high as the general price level. Hogs and horses are below pre-war price, and beef cattle, wheat, and eggs are close to the pre-war level. It is not to be expected that eggs, beef cattle or hogs will go much lower. Presumably the continued low price of beef cattle has resulted in sufficient curtailment of the industry so that a gradual price recovery is to be expected. The very low price of hogs will also probably reduce production to such an extent that recovery will gradually take place. The price of butter, while at present much higher, is less assured. The tendency to expand the dairy business coupled with the business recession are both unfavorable for butter.

(Continued on page 126)

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

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	April	.610	.76	95	99
Rye, bu.	Feb.	.645	.80	89	104
	Mar.	.628	.85	88	109
	April	.604	.80	83	103
Buckwheat, bu.	Feb.	.925	.93	130	129
	Mar.	.947	.96	134	135
	April	.936	.95	130	130
Flaxseed, bu.	Feb.	2.249	....	132	....
	Mar.	2.237	....	129	....
	April	2.177	....	126	....
Beans, bu.	Feb.	3.56	3.80	160	162
	Mar.	3.47	4.00	159	173
	April	3.50	3.90	160	171
Cotton, lb.	Feb.	.314	....	257	....
	Mar.	.277	....	223	....
	April	.287	....	231	....
Hay, ton	Feb.	13.60	16.00	113	105
	Mar.	13.63	16.00	113	103
	April	13.73	16.20	113	105
Onions, bu.	Feb.	1.83	1.58	162	178
	Mar.	1.81	1.65	152	153
	April	1.74	1.50	137	143
Potatoes, bu.	Feb.	.881	.91	134	132
	Mar.	.878	.91	131	134
	April	.911	.90	134	130
Sweet potatoes, bu.	Feb.	1.237	....	148	....
	Mar.	1.290	....	147	....
	April	1.404	....	151	....
Apples, bu.	Feb.	1.250	1.10	121	126
	Mar.	1.290	1.20	119	133
	April	1.290	1.15	113	112
Horses, head	Feb.	74.00	120.00	52	69
	Mar.	75.00	122.00	52	69
	April	76.00	120.00	52	66

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Chickens, lb.	Feb.	.182	.23	167	164
	Mar.	.189	.24	169	169
	April	.194	.24	169	162
Eggs, doz.	Feb.	.336	.43	128	134
	Mar.	.204	.30	95	107
	April	.191	.23	112	110
Butter, lb.	Feb.	.444	.52	163	158
	Mar.	.432	.51	167	165
	April	.403	.46	159	153
Milk, 3.7%	Jan.	....	2.17	....	114
Pool price (Utica)	Feb.	....	2.07	....	114
	Mar.	....	2.05	....	122
Milch cows, head	Feb.	55.49	68.50	116	126
	Mar.	55.88	67.00	114	120
	April	55.92	67.00	113	119
Beef cattle, cwt.	Feb.	5.47	5.30	107	100
	Mar.	5.63	5.60	106	108
	April	5.82	5.80	106	108
Veal calves, cwt.	Feb.	8.51	11.60	126	138
	Mar.	8.43	11.30	122	135
	April	8.33	11.00	123	142
Sheep, cwt.	Feb.	6.82	5.60	150	133
	Mar.	7.22	6.00	151	140
	April	7.45	6.50	145	143
Lambs, cwt.	Feb.	10.53	11.80	177	184
	Mar.	11.22	12.20	180	189
	April	11.32	13.00	175	191
Wool, lb.	Feb.	.375	.44	203	200
	Mar.	.382	.42	204	200
	April	.384	.43	213	205
Hogs, cwt.	Feb.	6.54	7.60	92	101
	Mar.	6.63	8.00	89	103
	April	6.70	8.00	88	102

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	February	37.00	131
	March	36.80	131
	April	36.00	126
Cottonseed meal	February	55.10	160
	March	54.00	160
	April	53.50	158

CARLOAD PRICES OF FEED AT BUFFALO

5 year average price	Bran	Standard Middlings	White Hominy	Gluten feed	Linseed oilmeal 31%	Cottonseed meal 36%
Mar., 1910-1914	24.59	24.49	25.07	27.75	31.73	30.30
March, 1924	26.70	26.70	32.10	38.35	39.65	43.28
Index numbers	109	109	128	138	125	143

(Continued from page 122)

PRICES PAID TO FARMERS FOR FOOD MATERIALS

In the northern states the primary basis of agriculture is the production of food. Prices paid to farmers for food materials in April were 18 per cent above the five-year pre-war average for April. In only two months of the entire panic period has this index number been lower. For 36 months, prices paid to farmers for food have averaged 122 and retail prices of food have averaged 150. Wholesale prices occupy an intermediate position. As has been previously mentioned, this relationship has continued with comparatively little change for three years. Most of the handling charges for a farm product after it leaves the farmer's hands are on a cost basis that is about double the pre-war so that while the farmer receives only one-fifth above pre-war, the higher handling costs make the retail price 50 per cent above pre-war. Since there seems to be little likelihood of a material decline in any of the transportation or handling charges, the only way to improve the prices paid to farmers is to have the retail price rise. Any rise in retail prices will be nearly all reflected to the farmer because handling charges will remain practically constant. A small percentage of increase in retail prices would, therefore, make a much higher increase in prices paid to farmers.

FARM, WHOLESALE, AND RETAIL PRICES OF NINE PRODUCTS

The index numbers for food as given above are probably the best basis for making comparison, but in order to be sure that no other factor enters into the problem, prices of nine farm products at the primary centers of production are compared with prices of products as similar as possible at wholesale and retail. The products include less of the cheaper foods so that the index numbers are higher than for all foods.

During the period of financial inflation, prices rose much faster than did freight rates or wages and a large part of the increase was transferred to farmers. In 1917 the index of prices of these nine commodities at retail was 53 per cent above the pre-war level, but the prices paid to farmers were 84 per cent above pre-war.

Financial inflation was checked in 1918 and retail prices began to catch up with farm prices. For February and March, 1919, the average of prices paid to farmers was 206, wholesale prices 200, and retail 184.

The secondary inflation of 1919 to 1920 again stimulated farm prices. When this secondary boom occurred, the opinion that prices would never fall became prevalent. Soldiers had returned and a strong demand for farm property developed. Prices of farm land, breeding stock, and tools rose strikingly. Large numbers of young men bought farms. This secondary inflation laid the foundation for the agricultural depression.

INDEX NUMBERS OF PRICES PAID TO FARMERS AND WHOLESALE AND RETAIL PRICES OF NINE PRODUCTS*

Corresponding Months of 1913 = 100

	Prices paid to farmers	Wholesale prices in cities	Retail prices in cities
1913	100	100	100
1914	105	102	102
1915	108	104	106
1916	123	119	114
1917	184	173	153
1918	205	198	178
1919	221	207	194
1920	213	207	206
1921	130	145	162
1922	128	137	151
1923	134	140	154

Deflation reverses the relationships. Freights and city handling charges decline relatively little or may actually rise. (The most striking increase in freight rates went into effect after deflation began.) In 1921, the retail prices of these nine commodities averaged 62 per cent above pre-war, but wholesale prices were only 45 per cent, and prices paid to farmers were only 30 per cent above pre-war.

COTTON

Whenever the price of a product is high relative to wages (i. e., freights, manufacturing, and handling charges) the farm price is higher than the price of the product that has entered the channels of trade, as shown by the following index numbers of prices for December, 1923:

Farm price of cotton (1911-1913 = 100)	267
Fairchild's index of cotton yarns (1911-1913 = 100)	251
Fairchild's index of cotton goods (1911-1913 = 100)	224
Bureau of Labor index of retail clothing (1913 = 100)	176

Cotton yarn which includes a small amount of city labor was nearly as high as the farm price. Cotton goods which require more labor are lower, and the retail price of clothing is still lower.

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*Prices paid to farmers in important centers of production as reported by the United States Department of Agriculture except for milk. Butter, Minnesota; cattle, Nebraska; hogs, Iowa; lambs, Idaho; chickens, Iowa; milk, pool price at Utica, N. Y.; wheat, North Dakota; corn, Illinois; eggs, Iowa.

Wholesale prices—creamery extra butter, Chicago; fresh beef carcass, good native steers, Chicago; fresh pork loins, Chicago; prime steam contract lard, New York; short clear cured pork sides, Chicago; smoked ham, Chicago; dressed lamb, Chicago; dressed fowls 48 to 56 lbs. per dozen, New York; milk delivered on platform, New York; flour, standard patents, Minneapolis; white cornmeal, Decatur, Ill.; eggs, firsts, Chicago.

Retail prices—creamery butter, Chicago; round steak, Chicago; rib roasts, Chicago; pork chops, Chicago; lard, New York; sliced bacon, Chicago; sliced ham, Chicago; leg of lamb, Chicago; hens, New York; milk, New York; flour, Minneapolis; cornmeal, Indianapolis; eggs, Chicago.

Wholesale and retail prices from reports of the United States Bureau of Labor Statistics. Where more than one product of a farm animal is included the average for all grades is used for the product. Each of the nine products is given an equal weight in calculating these index numbers. The index numbers are calculated on the 1913 base. In the case of farm prices, seasonal variation was eliminated on the basis of 1910-1914. For wholesale and retail prices, seasonal variation was eliminated by using the three years, 1913-1915.

MILK IN NEW YORK

From 1916 to 1920, index numbers of prices paid to farmers for milk were higher than wholesale prices. For the past three years, the reverse has been the case. For January-February, 1924, the pool price at Utica for 3.7% milk was 19 per cent above 1913, wholesale prices were 41 per cent and retail prices 56 per cent above pre-war.

FARM, WHOLESALE, AND RETAIL PRICES OF MILK—CORRESPONDING MONTHS 1913 = 100

	Pool price 3.7% milk at Utica	Milk delivered on the platform at New York City	Retail prices New York City
1913	100	100	100
1914	104	93	100
1915	105	94	100
1916	115	101	102
1917	173	143	132
1918	211	173	161
1919	235	192	179
1920	234	192	186
1921	162	168	168
1922	139	163	162
1923	160	172	165
1924, January, February	119	141	156

HOGS AND PORK

In 1917 and 1918, the index numbers of the price of hogs in Iowa were higher than the wholesale or retail prices. In 1923, hogs as sold by Iowa farmers brought 10 per cent less than in 1913, but pork at wholesale was 13 per cent and at retail was 37 per cent above pre-war.

FARM WHOLESALE AND RETAIL PRICES OF HOGS AND PORK, 1913 = 100

	Farm price in Iowa	Wholesale price pork loins, sides, smoked hams, Chicago; lard, N. Y.	Retail price pork chops bacon and ham, Chicago; lard, N. Y.
1913	100	100	100
1914	100	101	101
1915	85	92	99
1916	114	115	107
1917	190	178	147
1918	215	213	181
1919	219	229	198
1920	170	189	189
1921	98	130	152
1922	111	131	142
1923	90	113	137

CATTLE AND BEEF

The index number of prices of beef cattle as sold by Nebraska farmers rose more rapidly than retail prices of beef from 1916 to 1919 and rose more rapidly than wholesale prices from 1916 to 1917. For the last four years, the farm prices have been low compared with wholesale and retail prices. In 1923, farmers received 2 per cent above pre-war prices, beef at wholesale was 22 per cent, and at retail was 53 per cent above pre-war. Even in 1921, when farmers sold at 8 per cent below pre-war prices, beef at retail was 54 per cent above pre-war.

FARM, WHOLESALE, AND RETAIL PRICES OF CATTLE AND BEEF—1913 = 100

	Farm price cattle in Nebraska	Wholesale price of beef carcass, Chicago	Retail price round steak and rib roast, Chicago
1913	100	100	100
1914	105	105	108
1915	100	99	110
1916	112	106	112
1917	144	128	126
1918	165	169	156
1919	171	179	166
1920	143	177	176
1921	92	125	154
1922	97	115	146
1923	102	122	153

WHEAT AND FLOUR

The same general relationship of farm, wholesale and retail prices held for wheat as for other commodities. The very poor quality of wheat in 1916 and low outturn of flour probably accounts for the apparent exception in that year when flour was higher than wheat. Since 1920, the farm price fell from 310 to 122. Flour declined from 280 to 138, and flour at retail from 266 to 154. Bread has declined very little.

FARM, WHOLESALE, AND RETAIL PRICE OF WHEAT AND WHEAT FLOUR—1913 = 100

	Farm price in North Dakota	Wholesale price flour in Minneapolis	Retail price flour in Minneapolis
1913	100	100	100
1914	114	112	109
1915	153	147	136
1916	157	160	144
1917	249	250	217
1918	273	223	210
1919	299	263	242
1920	310	280	266
1921	155	184	190
1922	136	161	170
1923	122	138	154

EGGS AND BUTTER

Eggs and butter are relatively valuable for their bulk. They go thru no manufacturing processes in preparation for use. For these reasons, the transportation and handling costs are relatively less than for most other farm products. They illustrate the same principle that inflation raises farm prices more than retail prices and deflation lowers farm prices more than retail prices. But the differences are much less striking than for most farm products.

FARM, WHOLESALE, AND RETAIL PRICES OF BUTTER AND EGGS, 1913 = 100

	Farm price of eggs in Iowa	Wholesale price, eggs firsts, Chicago	Retail price, eggs Chicago	Farm price of butter in Minnesota	Wholesale price creamery extra butter in Chicago	Retail price creamery butter in Chicago
1913	100	100	100	100	100	100
1914	110	104	102	94	93	92
1915	110	101	104	96	92	93
1916	127	116	114	107	106	104
1917	178	164	155	137	133	128
1918	201	194	176	159	159	151
1919	227	214	199	193	189	177
1920	245	229	219	205	188	180
1921	161	155	164	132	135	135
1922	137	131	145	125	126	125
1923	143	137	157	146	148	148

LAMBS

In 1918 lambs in Idaho were 125 per cent above pre-war while leg of lamb in Chicago was only 70 per cent above pre-war. Lambs at retail in 1923 were higher than most foods and the farm price was nearly as high as the retail price.

FARM, WHOLESALE, AND RETAIL PRICE OF LAMBS, 1913 = 100

	Farm price of lambs in Idaho	Wholesale price of dressed lamb, Chicago	Retail price of leg of lamb Chicago
1913	100	100	100
1914	100	102	103
1915	111	110	107
1916	135	123	113
1917	215	161	142
1918	225	182	170
1919	206	186	178
1920	191	196	201
1921	119	138	169
1922	159	171	182
1923	168	169	180

WAYS OF BRINGING ABOUT AN ADJUSTMENT OF FARM, WHOLESALE AND RETAIL PRICES

Prices might come into adjustment by:

1. An increase in the American demand for farm products;
2. An increase in the foreign demand for farm products;
3. A reduction of wages, freights, etc.;
4. A reduction of the supply of farm products;
5. An increase in the general price level.

American urban demand for farm products is at the peak. All the foreign countries are bending every effort to become self-sufficient so that their exports can be used for purchasing raw materials and machinery, and for the payment of debts. Their agriculture is recovering more rapidly than their industries. Occasionally, there may be an increased demand for our farm products for a short time, but it seems probable that our food exports will decrease.

Judging by the experiences following the Civil War, and by history in other countries, there is little chance for relief thru great declines in wages. A period of unemployment would make matters worse as it would reduce demand without materially reducing freights and other handling charges.

The supply of farm products is gradually being reduced, but this is a very slow process. Farmers may raise a little less of this or that product, but declines in the total will be brought about by leaving fields idle or by the abandonment of farms. These are slow processes. The quick adjustment of cotton prices was due to the boll weevil. A drought such as occasionally comes might so reduce the supply of food products as to bring price adjustment for a time. Diminished production is not a desirable way to meet the situation, because it is so slow and because the momentum that will finally develop will doubtless make production too low for a number of years after adjustment has been reached.

A severe agricultural depression is an inevitable result of rapid deflation. Since it requires many years for wages and public service charges to decline, the disparity between farm prices and prices of the same commodities at retail must continue so long as deflation continues, unless a very striking shortage of farm products develops.

An increase in retail prices makes little change in handling charges and a large change in farm prices. Of course any change in one price always has some influence on other things, but judging by past relationships it seems probable that farm prices would come into close adjustment with retail prices, if retail prices of food were to rise to 75 to 80 per cent above pre-war. With the decrease in production per capita that has already occurred, a slightly lower figure might suffice. The relationships here described, together with the many years required to adjust taxes and debts to a new price basis, explain the reason why farmers are opposed to drastic deflation.

EGGS AND POULTRY

High wages in the cities stimulated the demand for eggs. Cheap feed stimulated production. These unusual circumstances resulted in the striking increase in the number of chickens on farms. (Farm Economics No. 12, page 111.) Receipts of eggs in New York City for the first three months of 1920 were only 16 per cent above pre-war, but in 1923 they were 91 per cent above.

For the early part of 1924 cold storage holdings were double last year's, and it was difficult to dispose of them. The fact that at the close of the season eggs sold at about pre-war prices makes those who store very cautious. Apparently eggs are being forced into consumption instead of being stored.

THOUSANDS OF CASES OF EGGS, IN NEW YORK, CHICAGO, PHILADELPHIA, BOSTON, SAN FRANCISCO, AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

	Receipts since Jan. 1		Storage holdings		Put into storage	
	1923	1924	1923	1924	1923	1924
Jan. 7 to 12	168	295	426	822	....	....
Feb. 4 to 11	1211	920	64	146	....	....
Mar. 3 to 8	2363	2125	9	20	....	....
Apr. 19 to 26	6122	5521	1405	1014	467	367

Receipts of live poultry during the first week of January, 1924, when eggs and poultry were high, were less than for the corresponding period of 1923. But during the first week of February, March and April when eggs were cheap and poultry very high, farmers sold more poultry than last year.

RECEIPTS OF DRESSED POULTRY, IN POUNDS, AT NEW YORK, CHICAGO, PHILADELPHIA, BOSTON, SAN FRANCISCO

	1923	1924
Jan. 7 to 12	10,199,000	9,008,000
Feb. 4 to 11	6,311,000	7,629,000
Mar. 3 to 8	4,637,000	5,419,000
Apr. 5 to 12	2,710,000	3,560,000

Poultry is higher in price than most other foods because it is somewhat of a luxury. As with other classes of foods, the finer grades of poultry are much higher compared with pre-war than are the poorer grades. In March, the index of prices of chickens was 249, but roosters were only 152.

INDEX NUMBERS OF PRICES OF DIFFERENT CLASSES OF LIVE POULTRY AT NEW YORK CORRESPONDING MONTHS OF

1910-1914 = 100

	Chickens		Fowls		Roosters	
	1923	1924	1923	1924	1923	1924
January	183	206	159	162	130	137
February	205	224	172	164	149	142
March	202	249	165	157	132	152
April	276	....	147	....	138	....

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FARM ECONOMICS

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BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Prices of 10 basic commodities Harvard	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
1923	157	161	163	152	95	126	214
Jan., 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	87	97	218
December	154	154	153	151	92	93	220
Jan., 1924	154	154	153	156	100	92	219
February	155	157	153	159	102	91	218
March	153	152	151	155	95	91	222
April	151	149	144	147	91	84	218
May	150	148	141	145	88	76	217
June	....	....	143	....	....	....	....

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

BUSINESS CONDITIONS

The decline in business activity continues. As is to be expected in a period of business recession the textile industry is seriously affected. Unemployment is beginning to be considerable in some regions, particularly in the cotton milling districts. As is usual in such a period, interest rates are falling and bond prices are rising. Wholesale prices and prices of industrial stocks show declines.

Before the war, the average length of the business cycle was about 40 months, 20 months of rising prices and 20 of falling prices. Prices reached a peak in May, 1920, then fell 20 months. The recovery that began in January, 1922, lasted for 15 months. The decline that began last May has lasted for 13 months. If the period should be of average length, prices would be expected to reach their lowest point about December. Of course, it is not to be expected that every period will be exactly the same length as the average. The very low interest rates, if continued, must result in rising prices in the not distant future.

PRICES OF FARM PRODUCTS

The pool price of milk at Utica, N. Y., for April was 37 per cent above the pre-war average for that month. The April price was lower than the February price, but the decline was not so great as usual therefore the index number rose.

For the products sold by New York farmers, the price index numbers rose for 7 commodities, 3 were stationary and 13 fell. Since milk represents such a large proportion of the products the index number for the State rose 5 points.

For the United States the index numbers of prices paid to farmers rose for 11 products, remained stationary for two and fell for 12. The index number remained at 135.

Food products as sold by American farmers remained at 118. Only twice in the past 37 months has the index number been lower.

Most of the grains declined. Wheat was 7 per cent above the five-year pre-war average.

Farmers received an average of 19.8 cents a dozen for eggs in May which was 19 per cent above the pre-war prices.

Butter in May was sold for 38 cents or 55 per cent above the pre-war level. This price is so much above the level of prices for most farm products that the dairy industry is being expanded in butter producing states.

Hogs continue to sell below pre-war prices. The index number for May was 92. Beef cattle continue at about the pre-war level.

The outstanding feature of the present agricultural situation is the stability of prices. The fluctuations are comparatively small for most of the commodities. The index for all food products has been very stable for three years, at a very low level. Food as sold by farmers will hire about 60 per cent as much city labor as before the war. Stability at this ratio is very satisfactory to other classes of the population but is disastrous to farmers.

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

Year	Farm Prices		Prices of Food in the United States		
	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
1923	142	137	122	143	151
June, 1922	138	129	129	139	145
July	141	129	126	141	146
August	125	125	120	137	143
September	124	119	113	137	144
October	122	122	117	139	147
November	131	129	120	142	149
December	136	134	124	143	152
January, 1923	127	137	126	140	148
February	132	136	123	140	146
March	133	138	123	142	146
April	143	139	122	143	147
May	148	138	124	143	147
June	163	134	121	141	148
July	157	134	120	140	152
August	149	129	118	141	151
September	151	133	122	146	154
October	147	138	123	147	155
November	143	141	122	147	156
December	135	143	123	146	155
January, 1924	123	143	121	142	154
February	123	142	122	142	152
March	125	136	119	140	148
April	130	135	118	136	145
May	....	135	118	136	145

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[1] From United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

AVERAGES FOR 37 MONTHS

Prices paid to farmers for food	122
Prices of food at wholesale	140
Prices of food at retail	150

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Corn, bu.	Mar.	.772	.96	128	135
	April	.782	.95	126	134
	May	.786	.94	121	129
Oats, bu.	Mar.	.462	.57	115	121
	April	.465	.56	115	114
	May	.463	.56	112	112
Wheat, bu.	Mar.	.988	1.15	111	115
	April	.958	1.10	108	110
	May	.968	1.10	107	110
Barley, bu.	Mar.	.600	.79	95	103
	April	.610	.76	95	99
	May	.600	.76	92	96
Rye, bu.	Mar.	.628	.85	88	109
	April	.604	.80	83	103
	May	.601	.82	83	102
Buckwheat, bu.	Mar.	.947	.96	134	135
	April	.936	.95	130	130
	May	.970	.97	133	129
Flaxseed, bu.	Mar.	2.237	....	129	....
	April	2.177	....	126	....
	May	2.226	....	126	....
Beans, bu.	Mar.	3.47	4.00	159	173
	April	3.50	3.90	160	171
	May	3.48	3.90	153	166
Cotton, lb.	Mar.	.277	....	223	....
	April	.287	....	231	....
	May	.281	....	223	....
Hay, ton	Mar.	13.63	16.00	113	103
	April	13.73	16.20	113	105
	May	13.65	16.30	112	103
Onions, bu.	Mar.	1.81	1.65	152	153
	April	1.74	1.50	137	143
	May	1.84	1.35	142	122
Potatoes, bu.	Mar.	.878	.91	131	134
	April	.911	.90	134	130
	May	.913	.85	131	118
Sweet potatoes, bu.	Mar.	1.290	....	147	....
	April	1.404	....	151	....
	May	1.392	....	142	....
Apples, bu.	Mar.	1.290	1.20	119	133
	April	1.290	1.15	113	112
	May	1.313	1.19	107	105
Horses, head	Mar.	75.00	122.00	52	69
	April	76.00	120.00	52	66
	May	78.00	120.00	54	67

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Chickens, lb.	Mar.	.189	.24	169	169
	April	.194	.24	169	162
	May	.203	.25	172	168
Eggs, doz.	Mar.	.204	.30	95	107
	April	.191	.23	112	110
	May	.198	.24	119	126
Butter, lb.	Mar.	.432	.51	167	165
	April	.403	.46	159	153
	May	.383	.43	155	148
Milk, 3.7% Pool price (Utica)	Feb.	....	2.07	....	114
	Mar.	....	2.05	....	122
	April	....	2.00	....	137
Milch cows, head	Mar.	55.88	67.00	114	120
	April	55.92	67.00	113	119
	May	56.37	68.00	114	122
Beef cattle, cwt.	Mar.	5.63	5.60	106	108
	April	5.82	5.80	106	108
	May	5.94	5.70	108	101
Veal calves, cwt.	Mar.	8.43	11.30	122	135
	April	8.33	11.00	123	142
	May	8.14	10.50	125	143
Sheep, cwt.	Mar.	7.22	6.00	151	140
	April	7.45	6.50	145	143
	May	7.33	6.20	148	144
Lambs, cwt.	Mar.	11.22	12.20	180	189
	April	11.32	13.00	175	191
	May	11.43	12.50	177	191
Wool, lb.	Mar.	.382	.42	204	200
	April	.384	.43	213	205
	May	.374	.43	210	205
Hogs, cwt.	Mar.	6.63	8.00	89	103
	April	6.70	8.00	88	102
	May	6.68	7.60	92	100

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	March	36.80	131
	April	36.00	126
	May	35.00	124
Cottonseed meal	March	54.00	160
	April	53.50	158
	May	54.00	160

CARLOAD PRICES OF FEED AT BUFFALO

5 year average price	Bran	Standard Middlings	White Hominy	Gluten feed	Linseed oilmeal 31%	Cottonseed meal 36%
April, 1910-1914	24.19	24.20	24.76	26.33	31.89	31.00
April, 1924	25.94	24.00	31.38	36.79	38.31	43.23
Index numbers	107	99	127	140	120	139

FARM MACHINERY

The number of farm machines sold in 1921 was about a third of the number sold in 1920. A slight increase in sales occurred in 1922.

It is probable that the sales in 1920 were high enough to increase the equipment, and it is certain that the present sales are too low to maintain the equipment. When the agricultural depression is over, the buildings, fences, and equipment on farms will be in very bad condition. Farm equipment was improved in 1919-1920 at a time when railroad equipment was deteriorating. Now railroads and city buildings are using large sums of money and farm equipment is rapidly deteriorating.

Even if the depression continues, the sales of farm equipment must increase gradually for the farmers cannot go on indefinitely using the old tools. Sales will sometime have to be very high to replace not only the usual demands but also the deficiency.

NUMBER OF FARM MACHINES SOLD IN THE UNITED STATES

From Reports by the Bureau of the Census

	1920	1921	1922
Plows and listers	1,216,000	408,000	456,000
Cultivators	590,000	368,000	306,000
2 row corn planters	66,000	26,000	21,000
Cotton and cotton-corn planters	140,000	29,000	24,000
Grain drills	110,000	23,000	22,000
Mowers	173,000	63,000	93,000
Grain binders	100,000	28,000	39,000
Grain threshers	21,000	9,000	10,000
Tractors (gas)	163,000	....	101,000
Farm wagons	298,000	....	113,000
Lime spreaders	9,000	3,000	3,000
Manure spreaders	104,000	27,000	33,000

In April, 1924, farm machinery cost 86 per cent more than in 1913. A price of 86 per cent above pre-war is not excessive when considered in terms of city labor, but is almost prohibitive to most farmers. At the average farm prices given on page 135 to 136, to buy ten typical farm machines now requires 72 per cent more bushels of wheat than before the war, 48 per cent more bushels of corn, 17 per cent more pounds of butter, 75 per cent more pounds of beef cattle, or over twice as many pounds of hogs as were required before the war.

INDEX NUMBERS OF DEALERS' PRICES IN APRIL FOR TEN STANDARD FARM IMPLEMENTS*

Year	Index numbers 1913=100
1913	100
1914	102
1915	102
1916	108
1917	134
1918	175
1919	178
1920	175
1921	176
1922	153
1923	165
1924	186

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*Agricultural Crisis and Its Causes. Report of Joint Commission of Agricultural Inquiry, 67th Cong. Report 408, Part I, p. 189. 1921. Later data furnished thru courtesy of Mr. A. E. McKinstrey of the International Harvester Company.

The amount of farm products that farmers are exchanging for machinery is considerably below the pre-war amount, but the amount of machinery that the farm products buy is even lower. When it is remembered that about double the pre-war amount of farm products go for taxes and interest payments it is surprising that so much is left to exchange for machinery.

PRICES PAID TO FARMERS FOR FOOD PRODUCTS

Prices paid to farmers in the United States for food products are given on page 140 to 144 in the last column.

On the average there was little rise in the prices of food products until 1916. Prices then began to rise and advanced with great rapidity during the years 1916 and 1917. In August, 1919, prices paid for food were 125 per cent above the pre-war level. Prices then fell but reacted and reached the final peak of 132 per cent above pre-war in June, 1920. The agricultural panic then began and in eleven months prices fell to 22 per cent above pre-war. For three years they have remained practically at this level and in April and May, 1924, were only 18 per cent above pre-war.

PRICES PAID TO FARMERS IN THE UNITED STATES FOR ALL FARM PRODUCTS

When cotton, wool and other non-food products are included the course of prices is very different, because the demand for clothing is very different from the demand for food and because of the boll weevil. It is a mistake to use index numbers of all farm products and assume that they represent northern states. Such an index number is useful if one wishes to represent the entire country by a single figure.

Cotton fell very strikingly in the latter part of 1914. This lowered the index number for all farm products. Cotton began to rise in 1916 and farm prices reached a peak of 131 per cent above prewar in August, 1919, then declined somewhat and finally reached a peak of 141 per cent above pre-war in June, 1920. During the panic period cotton and wool fell more in price than did food materials. The index number for all farm products fell to 8 per cent above prewar in June, 1921. During the last two years, cotton has been higher than food products and the index number for all farm products is materially higher than the index for food products.

PRICES PAID TO FARMERS IN THE SOUTHERN STATES

Index numbers of farm prices are included for Georgia, Alabama, and Texas. Since Georgia depends primarily on cotton, the index number for the state comes close to being a cotton index. The index number of farm prices for Georgia is higher than the index number for Texas. This does not, however, mean that Georgia is better off than Texas. Georgia depends primarily on cotton. This is very high in price, but the crop was so poor that the state is less prosperous than Texas which had a better yield of cotton and has more other things to sell.

Those farmers who had a normal yield of cotton in 1923 are very prosperous. Cotton in Georgia suffered unprecedented losses from the boll weevil in 1923 and the yield per acre was only 43 per cent of the pre-war average. Despite the fact that the index of the price of cotton, December 1, 1923, was 256, the index of the value per acre was only 109 and the purchasing power per acre was only 71. Large numbers of negroes left the state.

On the other hand, North Carolina which normally produces 252 pounds of cotton per acre produced 290 pounds in 1923. The index number of the value of the cotton crop per acre was 288 and the purchasing power of per acre was 187, and North Carolina farmers are very prosperous.

The price of cotton which is the only thing the city man observes, is no criterion by which to judge the prosperity of the South when crops are very abnormal. The purchasing power per acre is a much better measure of prosperity.

PRICES PAID TO FARMERS IN THE NORTHERN STATES

Two factors account for variations in the northern states—freight rates, and the different proportions in which the various farm products are grown. Freight rates were held down during the period of high prices, consequently the index number of prices rose higher in the western states than in the eastern states. When prices fell and freight rates were raised and handling charges were high, the prices paid to farmers for any given commodity fell more in the West than in the East. For the year, 1918-1919, index numbers of farm prices in New York, Pennsylvania, and Ohio were generally lower than for Iowa and North Dakota.

For the past three years farmers in New York and Pennsylvania have received better prices than farmers in the middlewestern states. These differences are due in part to the kinds of products and are due in part to handling charges. For three years the index numbers for New York State have averaged higher than those for any other state included in the table. There is little doubt but that the index numbers of states still nearer markets such as Connecticut would be higher than for New York.

Prices paid to farmers in Iowa in 1918 were double the pre-war level. They rose to 131 per cent above pre-war in August, 1919, and remained about double pre-war for another year. As in other states, they fell with great rapidity in the latter part of 1920 and reached a level of 10 per cent below the five-year pre-war average in September, 1921. For the past three years they have been little above pre-war and in May, 1924, were only 12 per cent above the pre-war level. For the three and one-half years ending in May, 1924, the average prices paid to farmers in Iowa were only 8 per cent above the five-year average before the war. During this same period, retail prices of foods in cities and whoesale prices of all commodities averaged over 50 per cent above pre-war.

Wheat did not drop in price as soon as some of the other commodities. Prices paid to farmers in North Dakota were lower last winter than at any other time during the panic period. The average for 1923 was 5 per cent above pre-war.

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

1910-1914 = 100

	New York	Pa.*	Ohio	Iowa	N. D.	Utah*	Ore.	Ga.	Ala.*	Texas	U. S.—All farm products	U. S.—Food products
1910	101	99	103	98	108	108	107	110	107	108	104	103
1911	97	94	89	87	101	91	97	103	99	98	94	92
1912	101	101	102	102	102	96	96	86	90	92	99	98
1913	97	100	102	103	89	101	98	98	99	100	99	101
1914	103	103	104	109	98	103	102	91	96	95	101	105
1915	100	102	106	107	123	109	106	80	86	93	101	106
1916	116	115	120	120	126	123	114	117	114	120	119	120
1917	170	170	179	181	199	168	168	184	171	177	180	180
1918	186	193	197	202	221	188	191	242	221	220	206	197
1919	206	206	208	211	237	193	198	238	222	222	215	210
1920	217	217	200	187	240	198	195	257	234	217	214	209
1921	144	140	120	102	125	107	119	105	108	105	119	128
1922	134	127	116	106	111	106	119	147	136	132	124	122
1923	142	138	116	113	105	127	119	202	178	167	137	122

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*Index numbers for Pennsylvania were prepared by F. P. Weaver, those for Utah by J. O. Ellsworth, and those for Alabama by J. D. Pope.

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

1910-1914 = 100

	New York	Penna.	Ohio	Iowa	No. Dakota	Utah	Oregon	Georgia	Alabama	Texas	U. S.—All farm products	U. S. Food products
1910												
Jan.	101	101	106	103	109	117	108	113	110	111	107	105
Feb.	102	101	108	104	111	114	111	108	108	110	107	105
March	100	102	110	109	111	104	114	110	107	106	108	107
April	102	102	111	107	112	121	114	108	106	110	108	107
May	100	101	107	102	108	112	109	107	104	108	105	105
June	95	98	104	101	105	108	105	108	106	109	104	103
July	93	97	102	97	107	105	105	105	104	106	102	101
August	103	99	100	94	115	104	108	110	108	109	102	100
Sept.	105	99	99	95	107	104	107	123	114	109	103	101
October	101	98	99	92	108	105	100	118	107	104	102	101
Nov.	103	98	97	90	104	107	103	125	108	108	102	99
Dec.	102	98	96	89	104	100	100	123	108	107	100	98
1911												
January	100	99	98	92	106	97	101	115	108	108	101	99
February	99	94	90	87	105	91	100	115	109	107	97	94
March	96	91	84	83	100	93	97	111	107	104	94	90
April	93	89	84	80	99	93	95	111	107	102	92	88
May	93	88	82	80	101	90	97	110	107	102	92	88
June	93	90	84	80	99	91	98	110	104	102	92	88
July	95	93	86	84	97	88	99	109	104	103	95	90
August	94	96	90	91	98	92	99	103	99	97	97	94
Sept.	96	96	89	88	99	87	97	99	96	93	94	93
October	97	96	90	90	102	93	95	90	87	87	92	92
November	100	96	93	94	106	87	95	81	82	82	92	94
December	101	97	94	96	103	89	94	80	81	82	93	94
1912												
January	101	99	94	97	106	87	94	71	79	82	93	95
February	104	103	97	99	106	93	93	74	82	86	96	98
March	106	103	102	99	105	94	94	81	86	89	97	98
April	106	103	100	104	107	92	97	83	88	91	100	101
May	109	109	107	110	110	99	98	89	92	94	105	106
June	104	108	107	108	111	102	95	87	92	94	104	105
July	105	105	105	105	110	98	97	90	92	93	102	103
August	104	101	104	104	103	98	96	96	97	99	101	100
Sept.	98	98	102	101	97	98	95	92	93	94	97	98
October	94	96	102	103	93	95	96	91	94	94	98	82
November	92	97	101	100	92	97	97	88	92	94	97	98
December	94	98	101	98	88	98	95	95	98	97	97	97
1913												
January	93	97	98	96	88	94	96	101	99	99	95	95
February	92	96	100	99	88	99	96	98	97	97	96	97
March	94	98	101	101	89	101	96	95	96	99	97	99
April	93	98	103	103	87	95	95	95	96	98	97	100
May	94	99	101	101	88	99	96	92	93	96	97	99
June	97	99	103	104	91	101	99	91	94	96	98	101
July	100	101	104	105	93	104	99	93	96	97	99	102
August	96	101	101	102	89	103	99	94	96	96	98	101
Sept.	100	102	101	105	90	105	100	96	97	102	100	101
October	108	105	103	107	90	100	101	107	108	109	104	104
November	108	105	104	109	89	103	99	109	110	107	105	105
December	106	105	105	110	90	109	101	104	105	103	105	106
1914												
January	104	105	105	111	92	101	100	100	103	100	104	106
February	104	105	105	111	90	102	100	105	105	101	104	106
March	104	105	103	109	95	107	98	103	104	101	104	105
April	104	104	103	107	95	98	99	102	104	99	102	103
May	103	103	102	107	93	101	100	102	103	100	102	103
June	109	103	102	108	93	99	104	104	104	100	102	103
July	106	104	103	109	94	104	99	103	104	101	103	104
August	101	103	105	110	94	103	97	100	105	103	103	105
Sept.	100	105	110	112	107	106	101	71	85	87	101	108
October	100	104	106	109	106	107	107	70	83	84	98	106
November	98	103	105	107	109	106	107	60	73	78	96	105
December	97	102	104	108	114	104	110	65	75	82	96	105

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

1910-1914 — 100

	New York	Penna.	Ohio	Iowa	No. Dakota	Utah	Oregon	Georgia	Alabama	Texas	U. S.—All farm products	U. S. food products
1915												
January	97	105	106	108	122	101	110	63	74	82	98	106
February	97	105	111	111	135	111	113	73	80	88	103	110
March	97	105	107	109	140	116	115	70	79	90	102	109
April	95	100	108	106	138	110	114	74	82	90	101	107
May	98	103	114	113	148	109	109	79	86	94	105	112
June	104	105	113	113	141	108	109	74	84	91	103	110
July	99	103	106	111	125	113	105	74	80	89	99	105
August	96	99	103	107	128	111	101	72	81	89	99	104
Sept.	97	99	100	102	93	110	99	77	82	93	96	100
October	98	100	104	104	98	108	97	105	102	104	101	102
November	108	103	103	102	100	109	101	102	100	108	102	102
December	104	102	102	100	104	109	100	102	100	105	101	101
1916												
January	104	105	105	106	119	103	103	102	99	106	104	105
February	107	107	111	114	132	113	106	102	100	106	109	110
March	108	108	110	116	116	119	109	101	98	107	108	111
April	108	110	113	116	116	113	107	101	101	107	110	112
May	113	113	116	120	120	120	109	100	101	108	112	115
June	116	114	115	121	115	118	107	103	105	110	113	116
July	116	113	115	119	111	123	110	105	105	112	114	116
August	111	111	119	118	112	123	112	107	109	115	115	118
Sept.	112	116	124	122	135	132	118	127	122	129	124	125
October	127	123	134	122	128	127	121	139	131	132	128	127
November	138	132	135	132	153	134	130	160	145	150	140	138
December	136	132	140	137	155	151	132	165	151	157	146	143
1917												
January	137	132	140	140	156	146	130	147	138	144	142	142
February	148	144	150	151	167	155	141	147	140	147	150	152
March	164	160	158	158	169	169	150	145	142	147	158	165
April	171	161	169	172	179	170	153	163	152	156	168	173
May	192	192	197	191	234	193	180	166	159	167	189	198
June	200	192	199	190	217	200	194	175	165	177	192	199
July	184	188	188	188	203	193	172	199	181	191	191	190
August	171	177	194	207	219	182	172	195	186	198	193	189
Sept.	165	175	185	193	198	188	187	193	186	194	189	187
October	176	175	191	198	214	184	182	206	191	191	192	189
November	184	178	189	192	214	189	185	239	206	206	196	189
December	172	174	192	184	214	193	175	232	211	209	196	189
1918												
January	183	185	191	193	219	176	177	241	215	215	198	188
February	184	191	191	196	218	179	176	242	221	220	202	191
March	186	197	194	201	227	196	182	247	222	227	205	194
April	175	183	196	203	233	178	179	258	229	227	206	193
May	190	186	199	210	230	187	183	229	218	214	203	196
June	177	184	194	201	219	182	195	224	209	210	198	193
July	181	185	194	203	218	183	190	233	210	216	202	196
August	184	199	206	207	218	190	201	233	218	206	205	202
Sept.	185	201	202	206	214	199	199	264	237	234	213	203
October	197	203	196	201	217	201	207	264	236	232	214	204
November	198	205	202	200	218	200	206	241	226	226	211	204
December	196	205	205	208	222	186	197	224	211	218	209	205
1919												
January	199	200	202	217	227	191	199	236	216	218	211	206
February	189	199	200	207	216	187	193	205	200	209	202	201
March	188	191	196	205	217	193	196	203	195	202	197	198
April	194	196	211	218	233	189	196	208	200	198	207	209
May	228	215	223	230	254	200	198	210	204	209	218	221
June	246	216	225	223	238	198	198	230	221	219	221	220
July	233	217	226	227	247	193	195	243	227	229	225	223
August	216	224	226	231	255	195	203	261	243	235	231	225
Sept.	212	215	203	203	223	201	203	245	229	228	215	207
October	199	206	192	191	235	188	201	251	231	229	210	200
November	199	202	194	191	241	185	199	287	257	249	219	205
December	205	206	197	196	255	194	194	284	248	241	220	206

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

1910-1914 — 100

	New York	Penna.	Ohio	Iowa	No. Dakota	Utah	Oregon	Georgia	Alabama	Texas	U. S.—All farm products	U. S. food products
1920												
January	212	211	203	202	265	199	200	292	255	241	227	215
February	219	219	209	199	260	206	208	296	261	240	228	216
March	223	223	199	197	245	222	214	294	259	248	226	213
April	220	220	209	198	266	209	205	302	266	242	231	218
May	248	241	215	203	287	224	211	299	267	241	240	229
June	272	255	219	214	276	229	203	294	264	239	241	232
July	246	244	218	207	267	213	207	292	262	238	239	230
August	225	231	205	188	237	201	205	289	260	230	224	215
Sept.	207	213	197	185	218	169	187	242	224	208	205	202
October	191	201	193	168	217	165	188	201	192	194	192	195
November	183	194	176	152	190	151	164	163	165	156	172	181
December	170	175	155	126	150	140	146	122	124	124	147	160
1921												
January	167	169	149	125	152	123	144	107	116	110	138	152
February	149	159	141	114	143	127	137	111	115	106	132	145
March	132	149	134	117	145	121	132	94	101	103	126	140
April	136	141	120	103	141	106	123	86	96	93	116	128
May	134	133	113	101	121	106	112	82	93	91	110	122
June	133	129	111	95	128	104	116	84	93	93	108	118
July	134	126	112	99	123	108	119	81	89	90	108	119
August	145	138	118	104	127	100	111	87	97	92	115	127
Sept.	155	138	108	90	112	99	107	115	109	107	115	122
October	157	134	109	91	110	97	109	153	142	134	124	123
November	155	134	111	90	100	96	104	138	130	123	121	122
December	148	135	113	94	100	100	106	128	120	117	118	120
1922												
January	142	129	110	95	100	95	108	131	121	116	117	119
February	139	128	112	99	101	110	109	125	115	113	116	119
March	138	130	117	108	125	121	120	130	121	121	124	128
April	132	125	118	104	131	111	113	130	122	123	123	125
May	138	131	122	109	132	117	122	126	124	123	126	129
June	138	134	121	110	132	127	127	144	137	132	129	129
July	141	128	117	110	119	117	128	152	140	139	129	126
August	125	123	111	110	114	113	121	159	144	136	125	120
Sept.	124	117	108	98	75	112	116	157	142	140	119	113
October	122	123	113	107	98	113	121	156	143	134	122	117
November	131	129	117	110	101	115	121	177	160	150	129	120
December	136	134	124	116	107	121	123	181	164	157	134	124
1923												
January	127	132	124	118	102	122	125	190	165	161	137	126
February	132	132	121	112	108	131	120	200	175	164	136	123
March	133	132	117	111	108	132	123	215	180	173	138	123
April	143	132	116	111	113	124	119	211	182	175	139	122
May	148	140	119	113	117	129	123	191	175	165	138	124
June	163	144	114	112	109	127	127	190	171	158	134	121
July	157	141	111	110	102	128	127	191	170	163	134	120
August	149	143	110	108	97	124	116	181	165	162	129	118
Sept.	151	144	112	114	99	128	115	190	174	153	133	122
October	147	142	114	113	105	128	114	210	185	166	138	123
November	143	141	116	114	104	128	116	221	197	177	141	122
December	135	138	119	114	103	127	109	233	201	186	143	123
1924												
January	123	131	114	113	111	......	111	244	201	191	143	121
February	123	......	116	113	113	......	110	238	203	185	142	122
March	125	......	109	111	117	......	108	211	180	171	136	119
April	130	......	111	110	113	......	106	220	182	167	135	118
May	......	......	112	112	111	......	109	212	181	164	135	118

G. F. WARREN and F. A. PEARSON

FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE,

CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 16 July 19, 1924

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Prices of 10 basic commodities Harvard	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
1923	157	161	163	152	95	126	214
Jan., 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	87	97	218
December	154	154	153	151	92	93	220
Jan., 1924	154	156	153	156	100	92	219
February	155	156	153	158	102	91	218
March	153	152	151	154	95	91	222
April	151	149	144	147	94	84	218
May	150	148	141	145	88	76	217
June	148	146	141	148	83	70	214

Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

BUSINESS CONDITIONS

Interest rates have been dropping very rapidly and in June averaged 83 per cent of pre-war. The present rates are much lower than the June average.

The low price of money is the outstanding feature of the present situation. In June, the New York and Boston Federal Reserve Banks reduced the discount rates to 3½, the lowest rates ever quoted by those institutions. These declining rates are a result of the huge stocks of gold in the banks and reduced demand due to the slackening of industry.

The low interest rates are resulting in more confidence in business and it is to be expected that the average level of wholesale prices will rise. Such a rise might start at any time and is to be expected before next year.

The stocks of gold are sufficient to sustain a price level much above the present level of wholesale prices. If wholesale prices rise, prices paid to farmers will increase by a much greater percentage as has prviously been shown in this publication. (No. 14, page 126)

The Bureau of Labor Statistics index number of wholesale prices fell 2 points in June. The greatest decline, 7 points, was for building materials.

FARM PRICES

The average price paid to farmers for food products in June was 19 per cent above the five-year pre-war average. Unless prices of other commodities change, the recent rise in prices of corn and wheat will raise this index number about 5 points.

Index numbers of prices paid to farmers in June in other states were as follows: Iowa 111, North Dakota 110, Utah 124, Oregon 113, Georgia 201, Texas 165.

The wheat crop of the United States is good but the world crop now promises to be considerably less than last year. This has resulted in a rise in the price of wheat, which will help the wheat farmers materially, and make feed more expensive for poultrymen.

The acreage of corn in the United States is 1 per cent above last year, but the weather has been so cold that planting was late and many of the fields have poor stands. As a result the present outlook for the corn crop is so poor that the Department of Agriculture estimates indicate a probable yield of 25 bushels for each 30 bushels obtained last year. What the final crop will be depends on the rainfall and temperature for July and August, and on the date of the first killing frost.

The poor condition of the crop caused a spectacular rise in the price of corn. The high prices of corn are not a measure of the incomes of western farmers because most of the corn crop is sold in the form of hogs which are below pre-war prices. The high price of corn compared with hogs is stimulating the marketing of hogs. The great surplus of hogs is therefore likely to be disposed of so that by another year hogs may rise in price. Getting rid of the surplus of both hogs and corn will help the agricultural situation. It should, however, be noted that this is due to the weather and that although helpful it is not a permanent solution of the agricultural depression.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Corn, bu.	April	.782	.95	126	134
	May	.786	.94	121	129
	June	.808	.97	119	129
Oats, bu.	April	.465	.56	115	114
	May	.463	.56	112	112
	June	.468	.58	112	114
Wheat, bu.	April	.958	1.10	108	110
	May	.968	1.10	107	110
	June	.985	1.12	108	110
Barley, bu.	April	.610	.76	95	99
	May	.600	.76	92	96
	June	.619	.79	96	99
Rye, bu.	April	.604	.80	83	103
	May	.601	.82	83	102
	June	.616	.80	84	100
Buckwheat, bu.	April	.936	.95	130	130
	May	.970	.97	133	129
	June	.965	1.00	127	130
Flaxseed, bu.	April	2.177	....	126	....
	May	2.226	....	126	....
	June	2.131	....	121	....
Beans, bu.	April	3.50	3.90	160	171
	May	3.48	3.90	153	166
	June	3.38	3.80	146	162
Cotton, lb.	April	.287	....	231	....
	May	.281	....	223	....
	June	.278	....	219	....
Hay, ton	April	13.73	16.20	113	105
	May	13.65	16.30	112	103
	June	13.75	16.80	111	103
Onions, bu.	April	1.74	1.50	137	143
	May	1.84	1.35	142	122
	June	1.55	1.50	123	118
Potatoes, bu.	April	.911	.90	134	130
	May	.913	.85	131	118
	June	1.007	.88	145	126
Sweet potatoes, bu.	April	1.404	....	151	....
	May	1.392	....	142	....
	June	1.389	....	145	....
Apples, bu.	April	1.290	1.15	113	112
	May	1.313	1.19	107	105
	June	1.593	1.25	130	128
Horses, head	April	76.00	120.00	52	66
	May	78.00	120.00	54	67
	June	77.00	115.00	53	64

PRICES PAID TO PRODUCERS (Continued)

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Chickens, lb.	April	.194	.24	169	162
	May	.203	.25	172	168
	June	.205	.25	174	164
Eggs, doz.	April	.191	.23	112	110
	May	.198	.24	119	126
	June	.211	.25	126	125
Butter, lb.	April	.403	.46	159	153
	May	.383	.43	155	148
	June	.363	.43	154	154
Milk, 3.7%	Mar.	....	2.05	....	122
Pool price (Utica)	April	....	2.00	....	137
	May	....	1.65	....	139
Milch cows, head	April	55.92	67.00	113	119
	May	56.37	68.00	114	122
	June	56.45	68.00	114	120
Beef cattle, cwt.	April	5.82	5.80	106	108
	May	5.94	5.70	108	101
	June	5.79	5.60	106	102
Veal calves, cwt.	April	8.33	11.00	123	142
	May	8.14	10.50	125	143
	June	7.91	10.00	117	127
Sheep, cwt.	April	7.45	6.50	145	143
	May	7.33	6.20	148	144
	June	7.09	6.00	149	142
Lambs, cwt.	April	11.32	13.00	175	191
	May	11.43	12.50	177	191
	June	11.21	12.70	178	191
Wool, lb.	April	.384	.43	213	205
	May	.374	.43	210	205
	June	.360	.40	206	200
Hogs, cwt.	April	6.70	8.00	88	102
	May	6.68	7.60	92	100
	June	6.55	7.70	91	104

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	April	$36.00	126
	May	35.00	124
	June	33.50	120
Cottonseed meal	April	53.50	158
	May	54.00	160
	June	54.40	161

The unfavorable weather for corn has so affected the market for feed that June quotations are much below the present market.

G. F. Warren and F. A. Pearson

PRODUCTION AND PRICES OF CABBAGE

E. G. MISNER

RAINFALL AND YIELD PER ACRE

Nine weather stations—Syracuse, Rochester, Geneva, Penn Yan, North Rose, Lockport, Avon, Skaneateles, and Cortland cover most of the New York State commercial Danish cabbage district. The total July, August and September rainfall at these stations compared with the precipitation when the many years' average is taken as 100, appears in Table 1, together with the actual yield per acre and the yield each year on a percentage basis when the nine years' average is taken as 100. A variation of 10 per cent in the rainfall has resulted in a variation of 11 per cent in the yield per acre.

TABLE 1.—RELATION OF JULY, AUGUST AND SEPTEMBER RAINFALL IN THE CABBAGE DISTRICT RELATIVE TO NORMAL, TO YIELD OF CABBAGE PER ACRE IN NEW YORK STATE

Year	Per cent of normal precipitation	Actual yield per acre (tons)	Per cent of nine years' average yield per acre
1915	151	10.0	123
1916	72	5.4	67
1917	102	7.3	90
1918	104	9.1	112
1919	90	6.5	80
1920	126	11.6	143
1921	88	6.5	80
1922	104	9.0	111
1923	71	7.5	93

For the nine years, 1915 to 1923, the following formula has predicted the total production of cabbage in New York State within an average of 12 per cent of the final reports issued by the U. S. Department of Agriculture.

Acreage reported harvested X Normal yield per acre X Rainfall in per cent of normal

PRICES PAID AT LITTLE YORK, CORTLAND COUNTY, N. Y., TO PRODUCERS FOR CABBAGE

Mr. F. N. Salisbury of Little York, N. Y., has loaned his carefully and systematically kept produce books to the Department for the purpose of studying cabbage prices.

In Table 2 are shown twenty-eight years of October to March monthly prices paid to producers for cabbage at Little York, Cortland County, N. Y., arranged according to the total July, August and September rainfall each year in per cent of normal, beginning with 1915, the year of heaviest rainfall, and ending with 1913, the year of lightest rainfall. The simple average of the six months' prices, and the weighted seasonal grower's price found by dividing the total dollars paid for Danish cabbage by the total tons purchased during the season also are shown.

During this period there have been nine years in which the rainfall was more than 110 per cent of normal, eight years when it was from 90 to 110 per cent, and eleven years when it was less than 90 per cent of normal. In the dry years the average price of cabbage for the six months, October to March, inclusive, corrected for the price level, has been 190 per cent of the average price in wet years. The prices in very wet years were lower in the fall and higher in January, February and March, relative to the average, than in very dry years.

TABLE 2.—AVERAGE MONTHLY PRICES PAID TO FARMERS FOR WHITE DANISH CABBAGE AT LITTLE YORK, N. Y.—YEARS ARRANGED BY PRECIPITATION†

		Prices to growers at Little York, N. Y.							
Year	Rainfall in per cent of normal	October	November	December	January	February	March	Average	Season's average price per ton paid to growers
1915-16	151	$4.04	$3.88	$5.00	$5.16	$5.01	$8.88	$5.33	$5.00
1920-21	126	7.09	7.00	7.00	7.63	5.06	5.00	6.46	6.86
1896-97	126	3.00	2.84	3.00	8.25	8.38	14.52	6.66	4.93
1904-05	123	4.74	4.93	9.02	7.11	7.59	11.74	7.52	7.66
1902-03	120	2.34	2.33	3.68	5.27	3.99	4.00	3.60	4.32
1903-04	118	10.28	11.46	25.83	38.70	39.47	40.26	27.67	23.26
1912-13	115	4.21	4.02	3.00	2.87	3.50	3.00	3.43	4.09
1910-11	112	4.85	5.84	7.57	6.43	4.87	6.45	6.00	5.82
1905-06	111	7.19	10.06	15.32	15.00	15.86	26.59	15.00	13.10
Average	......	5.30	5.82	8.82	10.71	10.41	13.38	9.07	....
1922-23	104	6.98	7.58	11.93	15.74	26.92	35.71	17.48	....
1906-07	104	8.17	9.74	10.00	10.33	18.29	12.68	11.53	10.12
1918-19	104	12.59	12.97	18.37	19.93	20.98	25.73	18.43	14.68
1917-18	102	25.46	19.01	30.66	40.44	44.18	22.25	30.33	28.72
1914-15	102	9.68	9.91	8.00	8.80	6.88	12.34	9.27	9.43
1901-02	100	7.22	5.83	7.80	8.20	15.90	10.19	9.19	8.37
1911-12	100	8.98	10.03	18.50	22.62	34.40	42.77	22.88	16.27
1894-95	92	4.98	4.60	3.30	5.05	11.20	*12.00	5.85	4.64
Average	......	10.51	9.96	13.57	16.39	22.34	21.71	15.62	....
1919-20	90	24.65	30.09	58.68	85.58	87.29	89.04	62.56	30.33
1900-01	89	4.21	5.08	10.82	11.01	10.98	11.20	8.88	8.49
1921-22	88	25.33	25.00	53.25	39.16	28.03	35.00	34.30	26.34
1907-08	84	7.79	6.00	5.98	5.75	5.82	4.63	6.00	6.23
1897-98	83	4.90	3.35	5.49	5.96	*6.00	*6.00	4.92	4.87
1899-1900	79	8.22	9.54	15.02	17.61	18.00	*18.00	13.68	10.75
1908-09	78	16.27	18.87	25.07	29.25	29.05	29.63	24.52	22.84
1909-10	76	8.73	8.97	16.78	24.01	22.46	20.80	18.58	12.93
1916-17	72	32.42	35.64	67.04	78.55	75.00	76.50	60.86	38.81
1923-24	71	12.13	11.99	16.87	21.04	23.81	27.76	12.06	....
1913-14	71	14.81	15.58	20.81	23.59	19.32	15.03	18.19	17.06
Average	......	14.50	15.46	26.89	31.05	29.61	30.33	24.05	....

† 1895-96 and 1898-99 omitted because of incomplete price data.
* Estimated.

In Table 3 are shown the prices paid to growers when corrected for the general price level by dividing the actual price by the index number of wholesale prices in the United States. This makes the data for different years comparable.

TABLE 3.—AVERAGE MONTHLY PRICES PAID TO FARMERS FOR WHITE DANISH CABBAGE AT LITTLE YORK, CORTLAND CO., N. Y., CORRECTED FOR PRICE LEVEL

Rainfall in per cent of normal	Number of years	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Simple average
		Prices to growers per ton corrected for price level						
Less than 90	11	$12.00	$12.47	$20.82	$23.08	$21.74	$21.84	$18.66
90 to 110	8	8.52	8.24	10.65	12.58	18.25	17.97	12.70
Over 110	9	5.39	5.96	9.35	11.70	11.49	14.94	9.80
		Seasonal variation—Six months' average equals 100						
Less than 90	11	64	67	112	124	116	117	100
90 to 110	8	67	65	84	99	144	141	100
Over 110	9	55	61	96	119	117	152	100

A summary of the relation of July, August and September rainfall to the average yield per acre and to November prices to farmers at Little York, N. Y., for nine years, 1915 to 1923 is shown in Table 4.

TABLE 4.—RELATION OF JULY, AUGUST AND SEPTEMBER RAINFALL IN THE CABBAGE DISTRICT OF NEW YORK TO AVERAGE YIELD PER ACRE AND TO NOVEMBER PRICES TO GROWERS AT LITTLE YORK, CORTLAND COUNTY, N. Y.

Rainfall in percent of normal		Yield per acre in percent of 9-year average	Number of years	November price to farmers at Little York, N. Y., in per cent of 9-year average (corrected for price level)
Range	Average			
Less than 90	77	80	4	154
90-110	103	104	3	79
Over 110	138	133	2	36

For the four years when the rainfall averaged 77 per cent of normal the yield per acre was 80 per cent of the nine-year average, and the November price, 154 per cent of the nine-year average. For the three years when the rainfall averaged 103 per cent of normal the yield per acre was 104 per cent of the nine-year average, and the November price, 79 per cent of the nine-year average. For the two years when the rainfall averaged 138 per cent of normal the yield per acre was 133 per cent of the nine-year average and the November price, 36 per cent of the nine-year average. The yield of cabbage depends very largely upon the rainfall, and the price depends upon the production. The variation in yield per acre has more influence upon the price than does variation in acreage.

The relation between rainfall and the price is so close that some indication of the price to be expected can be made on the basis of the following formula:*

$$P = L\left[\begin{array}{l}\text{C, Plus (C x Departures in rainfall below normal x 3 or}\\ \quad\text{Minus (C x Departures in rainfall above normal x 3}\end{array}\right]$$

When P = The price of cabbage to be predicted

L = The U. S. Bureau of Labor Statistics Wholesale Price Level of All Commodities.

C = The average November price of cabbage corrected by dividing the actual price by the index number of wholesale prices.

On the average for thirty years the departures from normal in rainfall have been accompanied by three times as large departures in price. The price predicted by use of this formula must always be considered a preliminary approximation, to be adjusted for conditions that can not be expressed in the formula, such as (1) panics; (2) abandonment of acreage planted; (3) very unusual distribution of rainfall; (4) too high or too low federal forecast of production; (5) bearish sentiment among buyers; (6) bullish sentiment among growers; (7) decided increase or decrease from the usual acreage planted.

If cabbage is to maintain the same purchasing power as it has for the past ten years, if the general price level remains the same as in 1923, and if the rainfall is 75 per cent of normal next season, the November price might be expected to approximate

November P = 1.53 [\$10.40 + (10.40 x 3 x 0.25)] or \$28 per ton

If the rainfall is 125 per cent of normal the forecasted price would be \$4.00 per ton. In very wet years the price is seldom higher than the least the grower will accept for it.

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*Mimeographed sheets giving greater detail of this method are available.

During the past thirty years substantial increases in the January over the October prices have occurred as follows: 1899, $9 per ton; 1903, $28; 1908, $13; 1909, $15; 1911, $14; 1916, $46; 1917, $15; 1919, $61; 1921, $14; 1923, $9. In the years, 1895, 1897, 1898, 1902, 1907, 1910, 1912, 1914, 1915, and 1920 the prices in January and February were not enough higher than the fall prices to cover shrinkage and other holding charges. This happens in big crop years. For the remaining seasons small increases have occurred.

The average length of time cabbage was stored in a house at Little York for thirteen years ending in 1921 was 84 days, the range being from 124 days in 1914 to 62 days in 1917. The average shrinkage and loss in per cent of the amount stored was 16.3 per cent. The average shrinkage on 966 tons of cabbage stored on the ground was 21.4 per cent of the amount stored. The approximate average cost for thirteen years for holding cabbage in the storage house at Little York, N. Y., was about 50 per cent of the first cost of the cabbage, and of this nearly half was shrinkage and loss of the product, and the remainder commission, interest on the cabbage, insurance on the cabbage, interest, taxes and insurance on the storage house property and direct labor in removing the cabbage from storage.

WHOLESALE PRICES OF CABBAGE IN NEW YORK CITY

Before the fall of 1899 cabbage prices were not reported in ton prices. The average of the high and low monthly wholesale prices of Danish cabbage in New York City as reported in the Saturday issues of the Producer's Price Current are given in Table 5. The normal or average seasonal trend for cabbage is to double in price from October to March. In years of a very short crop the seasonal advance has been much greater than this and in years of a very large crop less.

TABLE 5.—AVERAGE MONTHLY WHOLESALE PRICES OF DANISH CABBAGE PER TON IN NEW YORK CITY, N. Y.

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
1899-1900	....	....	....	....	$23.00	$33.30	$35.00	$35.00
1900-01	....	$13.50	$13.20	$15.25	14.00	15.60	13.00	....
1901-02	....	....	10.88	10.75	16.62	15.40	19.88	20.00
1902-03	$7.68	6.83	11.12	9.10	7.38	6.00	8.62	6.50
1903-04	12.70	15.00	34.12	31.50	45.62	46.56	47.50	....
1904-05	....	11.33	11.50	12.12	11.62	16.00	12.00	7.00
1905-06	....	17.50	20.10	20.38	18.50	32.20	37.50	....
1906-07	13.50	13.00	12.90	15.38	21.00	18.62	9.62	10.75
1907-08	....	8.60	10.50	10.38	10.50	9.38	8.88	....
1908-09	19.90	21.12	29.00	32.40	37.75	41.25	....	....
1909-10	13.50	11.62	15.80	28.12	27.00	24.62	30.00	....
1910-11	10.25	10.00	12.90	9.88	10.00	9.38	10.00	5.00
1911-12	11.62	15.62	21.60	25.50	33.88	48.33	54.17	....
1912-13	10.00	7.70	6.50	7.50	7.12	8.00	8.75	13.75
1913-14	21.50	19.70	26.00	28.12	25.00	25.00	24.50	....
1914-15	12.87	8.38	11.50	14.50	11.75	13.62	28.75	22.50
1915-16	7.50	6.00	7.88	9.62	8.87	14.67	....	....
1916-17	....	46.62	54.50	103.75	130.00	....	....	....
1917-18	31.00	24.62	38.50	45.62	58.12	24.50	22.50	....
1918-19	19.38	17.10	22.25	25.88	23.12	42.50	112.50	....
1919-20	28.00	31.67	68.75	87.00	71.88	77.50	75.00	....
1920-21	....	....	12.50	15.88	13.62	14.50	18.10	10.00
1921-22	30.62	36.50	47.40	49.88	38.00	37.38	....	....
1922-23	20.50	13.00	21.10	24.00	35.62	42.00	31.00	....
1923-24	21.88	16.88	23.88	29.00	37.62	44.12	....	....

FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE,

CORNELL UNIVERSITY, ITHACA, N. Y.

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BUSINESS CONDITIONS—1910-1914 = 100

	General Price Level						
Year	U. S. Bureau Labor Statistics	Fisher[1]	Prices of 10 basic commodities Harvard	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
1923	157	161	163	152	95	126	214
Jan., 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	87	97	218
December	154	154	153	151	92	93	220
Jan., 1924	154	156	153	156	100	92	219
February	155	156	153	158	102	91	218
March	153	152	151	154	95	91	222
April	151	149	144	147	94	84	218
May	150	148	141	145	88	76	217
June	148	146	141	148	83	70	214
July	150	148	....	156	64	69	214

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

GENERAL BUSINESS

There was a sharp decline in the physical volume of urban industry in June, bringing it to about the same level as in April, 1922. Factory employment likewise fell off. Cotton consumption is the lowest in three years. Unfilled orders of the U. S. Steel Corporation are the smallest since 1911. Trade at wholesale and retail also fell off, railroad shipments decreased and were considerably less than a year ago. The present depressed state of business is due to the fact that the shortage of houses, railroad equipment, automobiles, and the like has, to a considerable extent, been made up. Furthermore, the stocks in many lines of industry have been very large and at present manufacturers, wholesalers, and retailers are following a hand-to-mouth policy. When the shelves of trade are sufficiently depleted there will be an increase in industrial activity.

Fisher's index number of wholesale prices increased 2 points in July and now stands at 148. The advance of two points in the Bureau of Labor Statistics index of all commodities was due to the advance in farm and food products as the fuel, metal, building, and chemical groups declined. Altho business has not improved, sentiment has changed somewhat. The superabundance of credit, as indicated by reductions in the rediscount rates at the federal reserve banks, has stimulated bond prices and caused a spectacular advance in stock prices. The rediscount rate of the Federal Reserve Bank of New York is 3 per cent, which is the lowest bank rate in the world at this time. The continued importations of gold has built up a credit basis far in excess of the normal needs of trade. In July interest rates were but 64 per cent of pre-war. The index of 20 industrial stocks rose from 145 in May to 156 in July, and now stands at the same level it did in January, 1923. These factors indicate that a revival of business is to be expected before many months.

PRICES OF FARM PRODUCTS

The price of 3.7 per cent milk at Utica, New York, was higher than in June, but the increase was not as great as normally occurs, hence the index numbers of prices fell. The index number of prices paid to farmers for milk in July was 33 per cent above the five-year pre-war average. Despite the luxurious pastures, the high prices for labor and mill feed have discouraged New York farmers. Index numbers of farm prices in North Dakota advanced from 110 in June to 125 in July. This advance in prices coupled with the good yields for wheat reflect real improvement in the Northwest. Farm prices rose in Iowa but the advance was primarily due to the poor corn crop and does not reflect improved conditions. Index numbers of farm prices in Georgia fell.

The weighted index of prices paid to producers for farm products in the United States advanced from 134 in June to 138 in July, and is now at the same level it was in October, 1923. Since January, cotton has declined from 32.5 cents per pound to 27.3 cents; corn has risen from 73.6 to 98.3 cents per bushel, and wheat has risen from 96.7 to 105.8 cents. The decline in cotton prices has approximately compensated the advance in grain prices, so that the net change in agriculture is slight. Some of the prosperity of the southern cotton farmers has been transferred to the Northwest.

It cannot be assumed that because corn and wheat have experienced unusual changes that all farm prices have therefore advanced. Food products at retail are 148, at wholesale, 137, and at farm prices, 124. The disparity that has existed for 39 months still continues. Prices of twenty farm products, horses, apples, potatoes, onions, hay, beans, flaxseed, buckwheat, rye, barley, wheat, sweet potatoes, oats, corn, eggs, beef cattle, veal calves, milk cows, sheep and hogs, are below the general price level. Only five farm products, chickens, butter, lambs, wool, and cotton, are above the general price level.

There probably never has been a time when more interest has been exhibited in agricultural prices because of the political and economic situation.

WHEAT

It has been reliably estimated that the wheat acreage in the Northern Hemisphere, excluding Russia, is about 4½ per cent less than last year. At the same time the United States has a large crop now estimated by the government at 814 million bushels which is 28 millions more than in 1923. Only seven times in the past 55 years have we had such a large crop.

This year the American farmers reduced the wheat area because of the low prices of previous years, but the weather was so favorable that the total production promises to be very large. The reduced world acreage and yield accompanied by a good yield in the United States is very unusual. As the price of wheat is more affected by the size of the world crop than by the American crop, prices of wheat in this country have risen. As the yield of wheat per acre in the Northwest during the World War was so low that they did not profit by the very high prices at that time, the present situation is a real relief to that district. The innumerable problems of the Northwest will be solved if the world continues to produce poor crops and they produce good crops. The present situation is so unusual that American farmers can hardly hope that the agricultural situation will be permanently solved in this manner.

CORN

The corn situation is also very unusual. The price of corn has increased from 72.7 cents in December, 1923, to 98.3 cents in July, 1924, largely because of the prospects for a short crop. The United States Department of Agriculture August forecast for corn was 2,576,000,000 bushels, which is about half a billion bushels less than last year. In only 3 years, in the past 62, has the crop been in as poor a condition.

As a very small percentage of the corn crop is sold, the spectacular advance in prices of corn is of much less significance than it would be if the crop were sold. Corn is primarily a feed crop. In order to determine the effect of the present situation on American farmers we must turn our attention to the livestock industry. Corn is the basic concentrated feed for the cattle feeding industry and swine industry and forms an important part of the ration of horses, mules, chickens, and dairy cattle. A considerable portion of our livestock is in reality concentrated corn. The raising of hogs and other livestock is a method of converting corn and other farm products, unpalatable for man, into more palatable foods. Livestock also acts as a shock absorber in our food supply. When the crop is large it is stored in the form of meat rather than as grain. It keeps better in that form. When an unusual situation occurs, as at the present time, the margins of profit in converting corn into actual products are reduced and we liquidate a considerable part of our breeding herds and deplete our food reserves.

In the first six months of 1924 the farmers marketed over 29 million hogs, the heaviest shipments of which we have a record. These heavy marketings have been due to the previous huge corn crops. The marketings in the near future will further decrease the number of hogs because of the reduced corn crop of 1924. The shortage of feed stuffs has been depleting the production of pork in the United Kingdom, Denmark, and Holland. The present situation will increase the prosperity of those farmers who normally sell corn. Those farmers who feed corn, and they far outnumber those who sell corn, must face a shortage of feed. The immediate effect of a poor corn crop is unfavorable for farmers, but it will result in lower supplies of hogs and corn so that excess supplies will be less serious next year. From the consumer's standpoint it means reduced food reserves.

From the standpoint of milk production, (1) corn is so important that the price of it and its by-products influences the price of other concentrated feeds, (2) more than half of the by-product feeds used by dairy farmers are corn products. Therefore, low yields and high prices of corn increase the cost of production of farmers who must purchase large quantities of it and its by-products. The price of corn is so high compared with prices of butter, cheese and milk that if this relationship continues dairymen will feed much less grain or prices of dairy products must advance sufficiently to enable grain to be profitably fed. It is highly probable that prices of dairy products will not advance in proportion to corn prices and that farmers will curtail the grain allowances and milk production will decrease. The conditions that caused the poor corn crop in the middle west are producing a poor silage crop in the eastern dairy regions. The high prices of grain and shortage of silage will result in the use of relatively more hay which is abundant and cheap but less effective for milk production.

F. A. Pearson

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Corn, bu.	May	.786	.94	121	129
	June	.808	.97	119	129
	July	.983	1.10	142	145
Oats, bu.	May	.463	.56	112	112
	June	.468	.58	112	114
	July	.494	.62	118	122
Wheat, bu.	May	.968	1.10	107	110
	June	.985	1.12	108	110
	July	1.058	1.20	121	119
Barley, bu.	May	.600	.76	92	96
	June	.619	.79	96	99
	July	.688	.85	112	109
Rye, bu.	May	.601	.82	83	102
	June	.616	.80	84	100
	July	.688	.81	95	100
Buckwheat, bu.	May	.970	.97	133	129
	June	.965	1.00	127	130
	July	1.045	1.10	132	131
Flaxseed, bu.	May	2.226	....	126	....
	June	2.131	....	121	....
	July	2.181	....	130	....
Beans, bu.	May	3.48	3.90	153	166
	June	3.38	3.80	146	162
	July	3.28	4.00	143	165
Cotton, lb.	May	.281	....	223	....
	June	.278	....	219	....
	July	.273	....	215	....
Hay, ton	May	13.65	16.30	112	103
	June	13.75	16.80	111	103
	July	13.49	16.60	112	104
Onions, bu.	May	1.84	1.35	142	122
	June	1.55	1.50	123	118
	July	1.76	1.60	144	122
Potatoes, bu.	May	.913	.85	131	118
	June	1.007	.88	145	126
	July	1.090	.90	147	130
Sweet potatoes, bu.	May	1.392	....	142	....
	June	1.389	....	145	....
	July	1.307	....	142	....
Apples, bu.	May	1.313	1.19	107	105
	June	1.593	1.25	130	128
	July	1.413	1.29	138	147
Horses, head	May	78.00	120.00	54	67
	June	77.00	115.00	53	64
	July	77.00	117.00	54	67

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	May	.203	.25	172	168
	June	.205	.25	174	164
	July	.202	.25	170	164
Eggs, doz.	May	.198	.24	119	126
	June	.211	.25	126	125
	July	.231	.28	138	127
Butter, lb.	May	.383	.43	155	148
	June	.363	.43	154	154
	July	.370	.43	162	159
Milk, 3.7%	May	....	1.65	....	139
Pool price (Utica)	June	....	1.59	....	149
	July	....	1.67	....	133
Milch cows, head	May	56.37	68.00	114	122
	June	56.45	68.00	114	120
	July	55.46	67.00	113	119
Beef cattle, cwt.	May	5.94	5.70	108	101
	June	5.79	5.60	106	102
	July	5.65	5.40	106	99
Veal calves, cwt.	May	8.14	10.50	125	143
	June	7.91	10.00	117	127
	July	7.88	9.90	117	121
Sheep, cwt.	May	7.33	6.20	148	144
	June	7.09	6.00	149	142
	July	6.60	5.60	145	135
Lambs, cwt.	May	11.43	12.50	177	191
	June	11.21	12.70	178	191
	July	10.50	12.40	172	188
Wool, lb.	May	.374	.43	210	205
	June	.360	.40	206	200
	July	.343	.38	196	181
Hogs, cwt.	May	6.68	7.60	92	100
	June	6.55	7.70	91	104
	July	6.60	7.70	91	102

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	May	35.00	124
	June	33.50	120
	July	33.60	126
Cottonseed meal	May	54.00	160
	June	54.40	161
	July	55.00	163

PRICES OF LONG ISLAND POTATOES

The largest proportion of the shipments of potatoes into the New York market during August and September is from Long Island. The remainder comes chiefly from New Jersey and from Maine if the crop on the Island is short enough, so that the price is high enough to attract Maine shipments.

RAINFALL ON LONG ISLAND

The weather stations, Cutchogue, Medford, Roslyn, Setauket and Southampton, cover most of Long Island. The potatoes are planted in April and harvested from August on, and therefore, the May, June, and July rainfall has the most influence on the growing crop. The normal rainfall at Long Island stations is shown in Table 1.

TABLE 1.—NORMAL RAINFALL AT WEATHER STATIONS ON LONG ISLAND

	Inches of rainfall			
	May	June	July	Total for three months
Setauket	3.58	2.85	4.03	10.46
Southampton	3.26	2.85	3.09	9.20
Medford	3.71	3.46	4.06	11.23
Cutchogue	3.23	3.38	3.48	10.09
Roslyn	3.68	3.98	3.86	11.52

PRODUCTION OF LONG ISLAND AND NEW JERSEY POTATOES

The production of Long Island potatoes is not reported separately from other New York State production. One indication of the production for a number of years back is the rainfall data. The potato production in New Jersey in years with varying rainfall on Long Island has been as indicated in Table 2.

TABLE 2.—RELATION OF TOTAL MAY, JUNE, AND JULY RAINFALL ON LONG ISLAND TO PRODUCTION OF POTATOES IN NEW JERSEY

Rainfall on Long Island in per cent of normal		Number of years	Bushels of potatoes produced in New Jersey in per cent of normal
Range	Average		
Less than 85	70	11	93
85—110	93	10	107
Over 110	147	10	99

PRICES PAID TO ONE GROWER AT RIVERHEAD, LONG ISLAND

Messrs. H. R. Talmadge and Son of Riverhead, L. I., have furnished the prices per bushel received by them for potatoes in bulk as given in Table 3.

TABLE 3.—PRICES RECEIVED AT RIVERHEAD, L. I., FOR POTATOES IN BULK PER BUSHEL

Year	Aug.*	Sept.	Oct.	Nov.
	Cents per bushel			
1893	45	52	68	65
1894	60	58	50	50
1895	38	30	28	25
1896	25	29	40	35
1897	55	76	100	......
1898	48	46	46	50
1899	48	49	45	45
1900	45	49	50	......
1901	88	69	71	75
1902	28	44	55	......
1903	50	52	65	66
1904	40	49	59	57
1905	50	51	62	85
1906	48	56	58	......
1907	65	61	74	70
1908	78	81	85	85
1909	62	65	72	78
1910	65	60	59	60
1911	80	82	86	98
1912	70	60	74	85
1913	75	75	88	78
1914	58	60	58	60
1915	40	56	75	75
1916	82	101	139	175
1917	105	115	164	150
1918	140	136	154	150
1919	188	155	135	160
1920	125	111	118	125
1921	165	145	142	150
1922	52	52	52	70
1923	145	129	119	110

* Average prices for the last two weeks in August.

The average price per bushel, corrected for price level, to this farmer for the 31 years 1893 to 1923 inclusive, was for the last two weeks in August 65 cents, for September 66 cents, for October 73 cents and for November 74 cents. The increase in the November price over the September price for 31 years averaged 8 cents a bushel.

WHOLESALE PRICES OF LONG ISLAND POTATOES IN NEW YORK CITY

The monthly averages of the high and low quotations in the Saturday issues of the Producers' Price-Current for Long Island potatoes are given in Table 4. These prices and the index numbers of the size of the New Jersey crop were computed by G. P. Scoville.

TABLE 4.—AVERAGE MONTHLY WHOLESALE PRICES OF LONG ISLAND POTATOES, BULK PER BARREL, PER BARREL, OR PER 165-POUND BAG IN NEW YORK, N. Y.

By G. P. Scoville, from the Producers' Price-Current

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
1867-68	$3.25†	$2.18	....	....	....	....	....	....	....
1868-69	5.84	3.47	$2.38†	....	....	....	....	....	....
1869-70	2.32	1.25	1.69*	....	....	....	....	....	....
1870-71	3.00*	....	....	....	....	....	....	....	....
1871-72	2.72	1.69	1.75	$1.75†	....	....	....	....	....
1872-73	2.31	2.12†	....	....	....	....	....	....	....
1873-74	3.56*	....	1.88†	....	....	....	....	....	....
1874-75	2.21	1.88	1.12†	....	....	....	....	....	....
1875-76	1.50	1.22	....	....	....	....	....	....	....
1876-77	3.02	....	....	....	....	....	....	....	....
1877-78	1.74	1.25	1.46*	1.44†	....	....	....	....	....
1878-79	1.52	1.57	2.09	2.25†	....	....	....	....	....
1879-80	1.66	1.28	1.12	....	....	....	....	....	....
1880-81	1.95	1.59	1.62	....	....	....	....	....	....
1881-82	1.54	1.64	2.45	3.06	....	....	....	....	....
1882-83	3.66	2.40	2.37	2.38	$2.38	$2.90	....	....	....
1883-84	1.86	1.46	1.55	1.41	1.38	1.38	$1.40	$1.38	$1.33
1884-85	2.78	1.60	1.53	1.38	1.44	....	....	....	....
1885-86	1.87	1.75	1.67	1.76	1.91	2.12	2.12	....	....
1886-87	1.94	1.56	1.83	1.83	1.88	....	....	....	....
1887-88	1.59	1.78	2.02	2.23	....	....	....	....	....
1888-89	2.58	1.86	1.87	1.69	1.69	1.87	2.26	....	....
1889-90	1.89	1.77	2.00	2.03	1.92	1.97	1.93*	....	....
1890-91	2.10	2.06	2.12	2.48	2.82	3.19	3.44*	....	....
1891-92	2.09	1.70	1.41	1.55	1.52	1.50	1.50	1.64	1.68
1892-93	1.68	1.54	1.73	2.11	2.23	2.51	2.75	2.68	....
1893-94	2.50	2.35	2.14	2.14	2.24	2.24	....	....	....
1894-95	1.66	1.84	1.99	1.88	1.86	1.84	1.84*	....	....
1895-96	1.71	1.26	1.14	1.08	0.95	1.00	0.93	0.82	0.75
1896-97	1.06	0.99	1.03	1.31	1.33	1.33	1.43	1.41*	....
1897-98	2.17	2.00	2.40	2.31	2.47	2.62	2.62	2.50*	2.50†
1898-99	2.28	1.68	1.64	1.57	1.50	1.73	1.88	1.91	2.06
1899-1900	1.67	1.56	1.38	1.33	1.44	1.67	1.72	1.75	1.71
1900-01	1.37	1.54	1.62	1.59	1.62	1.72	1.75†	....	....
1901-02	2.75†	3.15	2.34	2.38*	....	....	....	....	....
1902-03	1.38	1.14	1.52	1.84	2.06	2.10	2.12	2.12	2.12
1903-04	2.42	1.80	1.79	1.96	2.03	2.24	2.68	3.30	3.18
1904-05	1.45	1.46	1.47	1.81	1.94	1.85	1.83	1.73	1.72
1905-06	1.35	1.67	1.66	2.06	2.34	2.21	2.12	....	....
1906-07	1.83	1.67	1.93	1.88	1.72	1.62	1.82†	1.93	1.89
1907-08	2.12†	2.25	2.14	2.18	2.12	2.29	2.38	2.75	2.62
1908-09	2.83	2.62	2.47	2.60	2.84	2.81	2.82	2.88	2.88†
1909-10	2.12	2.09	2.14	2.48	2.56	2.30	2.00	....	....
1910-11	1.44	1.90	1.88	1.81	1.94	1.76	1.75	1.75	....
1911-12	3.60	2.88	2.58	2.66	3.22	3.43	3.68	3.75	....
1912-13	2.37	2.19	2.15	2.31	2.40	2.69	2.50	2.53	2.55
1913-14	1.97	2.18	2.40	2.44	2.50	2.44	2.62	2.84	2.88†
1914-15	2.69	1.93	2.00	1.84	1.82	1.88	1.88	1.88	....
1915-16	1.06	1.44	1.54	2.58	2.41	2.87	3.80	3.88	3.94
1916-17	2.16	2.60	3.50	4.47	5.17	4.90	6.09	8.34	8.09
1917-18	3.50*	3.50	3.80	5.25	4.72	4.33	5.06	4.39	3.43
1918-19	4.46	4.40	4.72	4.84	4.40	5.03	5.19	4.25	4.00
1919-20	5.88*	5.80	5.25	4.66	5.25	5.63	6.83	7.78	10.00
1920-21	7.81	4.06	3.66	4.19	4.34	4.06	3.88	3.09	3.09
1921-22	3.66	4.75	3.47	4.51	4.69	4.90	5.13	5.10	4.23
1922-23	2.91	2.20	2.38	2.58	2.84	3.09	3.56	3.58	5.05
1923-24	4.56*	4.59	4.31	4.25	3.91	4.12	4.09	3.94	4.12
1924-25	2.62	2.17	....	....	....	....	....	....	....

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* Averages for two weeks. † Averages for one week. All other averages are for at least three weeks.

The average wholesale prices of Long Island potatoes per barrel in New York City for 31 years, 1893 to 1923 inclusive, corrected for price level, was $2.21 for August, $2.18 for September, $2.35 for October and $2.40 for November. For the seven years 1917 to 1923 inclusive, the August corrected price was $2.29 and the September price $2.14 per barrel. As a general proposition the September price of Long Island potatoes is but slightly less than the August price. In 31 years there were only six years when the September price was as much as ten per cent or more above the August price, and four years when the September price was as much as 10 per cent or more below the August price. The increase in the November price over the September price for 31 years averaged 7 cents a bushel.

The average difference for 31 years between the price to one farmer at Riverhead, L. I., and the wholesale price in New York City of Long Island potatoes, when corrected for the price level, was 13 cents per bushel in September, 12 cents in October and 13 cents in November. This was 20 per cent of the grower's price for September, 16 per cent for October, and 18 per cent for November. The gross margin between the grower's price and the city wholesale price in percentage of the grower's price was most in August and September.

RAINFALL AND PRICE

The relation of the May, June and July rainfall on Long Island to growers' prices at Riverhead and to the wholesale prices in New York City is shown in Table 5. The 31 years' average for each month is considered as normal, or 100.

For the 11 dry years when the rainfall was less than 85 per cent of normal, averaging 70 per cent, the average price to the growers and the wholesale city prices were relatively high. The exceptions to a high price in years when Long Island was dry were in 1895 when New Jersey had 123 per cent of its usual crop, in 1910 when New Jersey had a 117 per cent crop and in 1915 when New Jersey had a 119 per cent crop. In the other eight dry years for Long Island the New Jersey crop averaged 83 per cent of a normal amount. In 1895, and 1915, the large New Jersey crop was due to a high yield per acre, but in 1910 it was due to both an unusually large acreage, and a good yield. In these years the New Jersey crop was sufficiently large to seriously depress the price for Long Island potatoes.

For the 10 years when the rainfall was 85 to 110 per cent of normal averaging 93 per cent, the average price for Long Island potatoes was below average. The lowest prices prevailed in those years.

For the 10 years when the Long Island rainfall was 110 per cent or more of normal, averaging 147 per cent, potato prices were again relatively high. The three wet years on Long Island, when the prices were low, were 1906 when the New Jersey crop was 111 per cent of normal, 1920 when the New Jersey crop was 126 per cent of normal, and 1922 when the New Jersey crop was 146 per cent of normal. In the remaining seven wet years on Long Island the size of the New Jersey crop averaged 87 per cent of normal.

TABLE 5.—RELATION OF MAY, JUNE, AND JULY RAINFALL ON LONG ISLAND IN PER CENT OF NORMAL TO PRICES TO GROWERS AT RIVERHEAD, L. I., AND TO WHOLESALE PRICES OF LONG ISLAND POTATOES IN NEW YORK CITY, N. Y.

	Per Cent of Normal (31 Years Average = Normal or 100)								
	Per cent of normal rainfall	Prices to one farmer at Riverhead, L. I.				Wholesale prices in New York City			
Year		Aug.	Sept.	Oct.	Nov.	Aug.	Sept.	Oct.	Nov.
Less than 85 per cent of normal rain									
1893	80	88	100	118	111	134	124	115	118
1894	59	132	126	97	96	119	130	114	111
1895	78	83	64	53	47	80	74	65	56
1908	71	132	135	127	126	130	124	122	130
1909	69	97	98	97	103	95	98	105	105
1910	80	98	88	79	80	84	84	75	79
1911	62	129	130	125	139	137	125	119	141
1912	77	106	89	100	112	98	97	96	98
1913	43	114	109	116	103	97	106	101	102
1915	80	60	83	99	96	64	69	106	95
1923	77	146	124	104	96	136	126	116	105
Average	70	108	104	101	101	107	105	103	104
85-110 per cent of normal rain									
1896	95	57	65	81	69	66	69	82	82
1899	87	95	97	79	78	92	82	74	78
1900	103	85	91	84	------	85	91	83	82
1902	94	51	77	85	------	61	81	89	99
1903	91	88	89	103	103	94	93	96	97
1904	90	71	85	93	88	76	78	89	92
1905	94	88	86	96	127	86	86	98	108
1907	99	103	95	104	99	105	101	96	92
1914	87	86	88	81	82	85	88	79	77
1917	92	83	91	121	108	82	91	120	105
Average	93	81	86	93	94	83	86	91	91
Over 110 per cent of normal rain									
1897	252	125	170	201	------	133	162	145	151
1898	160	105	98	89	95	107	106	94	88
1901	116	168	127	119	123	176	131	123	------
1906	155	82	94	86	------	83	97	87	77
1916	150	98	115	137	158	91	121	137	145
1918	120	106	98	103	97	98	104	100	89
1919	116	131	109	86	97	119	112	92	99
1920	141	82	73	75	84	78	72	83	90
1921	124	175	153	134	141	148	111	132	136
1922	140	51	50	45	59	63	70	70	75
Average	147	112	109	108	107	110	109	106	106

The New Jersey potatoes precede Long Island potatoes on the market and a large crop in New Jersey establishes relatively low prices. But, if one can judge by rainfall when the Long Island crop is large, the New Jersey crop also is usually but not always large.

Apparently about seven years out of ten when it is very dry or very wet on Long Island, the New Jersey crop is less than normal, and in those years the price of Long Island potatoes is relatively high. The reason why prices are high in very wet years is probably because of loss of the crop and decreased yield from blight rot.

In both the very dry and the very wet years the price of Long Island potatoes approaches normal or declines as the marketing season advances from August to November. In years of moderate or normal rainfall an advance in price occurs.

PRICE PROSPECTS FOR 1924

The rainfall for May, 1924, on Long Island was 140 per cent of normal, for June 107 per cent and for July 18 per cent. In July, 1924, the rainfall was the lightest ever recorded for the month of July on Long Island. Records at Setauket extend back 40 years. The average for the three months was 86 per cent of normal. The production of New Jersey potatoes as forecasted from the condition July 1, is 9.4 million bushels, or 86 per cent of normal for the State. This includes second early, and late crops. The dry weather will probably result in a serious decrease in the yield of Long Island potatoes. The production situation on New Jersey and Long Island would suggest a price for Long Island potatoes in September and October, relatively high, but not quite so high as last year. The rainfall on Long Island in 1923 was 77 per cent of normal and the crop in New Jersey 68 per cent of normal. This year the rain is 86, and the crop in New Jersey 86 per cent of normal.

The wholesale price in New York City of Long Island potatoes for the first three weeks of August, 1924, has averaged $2.17 per 165 pounds, or 67 per cent of the corrected August average for 31 years. Apparently the receipts of Eastern shore and other southern potatoes have been so heavy in New York that the August prices of potatoes have been kept down. When the receipts of southern stock decrease and the New Jersey and Long Island situation is fully reflected the price may be expected to rise.

E. G. MISNER

PROSPECTS FOR 1924 CABBAGE PRICES

The rainfall during July, 1924, compared with the many years' average, as 100, was 148 at Syracuse, 115 at Cortland, 129 at Rochester, 153 at Skaneateles, 120 at Lockport, 164 at Geneva and 140 at Avon. The average of these seven stations in the New York late cabbage district was 138.

In the 31 years from 1894 to 1924 inclusive there have been only four other years, 1896, 1902, 1904 and 1915 when the July rainfall over the New York cabbage district has exceeded the July rainfall this year. The average of prices in those years to growers for cabbage at Little York, Cortland County, New York, in November was $3.49 per ton, and for the 6 months, October to March, $5.80 per ton. Of course these are before the war prices. The present price level is about 50 per cent above prices for five years just preceding the war.

The rainfall in August up to the 12th, has been heavy. If more than the normal amount of precipitation occurs for the remainder of the month and in September, an abundance of cabbage is to be expected. Too much rain may cause a decrease from disease.

Rainy weather in August and September will also cause a rank growth on the meadows. In view of the extremely high price of concentrates and low price for milk, it seems that the most complete use of meadow "bait" and of cabbage refuse should be made by dairy farmers. If the cabbage crop is large, and thus low in price, more than the usual amount of cabbage should be fed to livestock. If large numbers of farmers would do this and save some to sell in the winter, it would save grain, help the fall price of cabbage and give cabbage a better chance to advance in price during the winter.

E. G. MISNER

FARM ECONOMICS

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No. 18 September, 1924

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Prices of 10 basic commodities Harvard	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
1923	157	161	163	152	95	126	214
Jan., 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	87	97	218
December	154	154	153	151	92	93	220
Jan., 1924	154	156	153	156	100	92	219
February	155	156	153	158	102	91	218
March	153	152	151	154	95	91	222
April	151	149	144	147	94	84	218
May	150	148	141	145	88	76	217
June	148	146	141	148	83	70	214
July	150	148	137	157	70	69	214
August	153	151	144	165	58	72	216
September	....	....	145	....	....	....	....

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

Year	Farm Prices		Prices of Food in the United States		
	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
1923	142	137	122	143	151
June, 1922	138	129	129	139	145
July	141	129	126	141	146
August	125	125	120	137	143
September	124	119	113	137	144
October	122	122	117	139	147
November	131	129	120	142	149
December	136	134	124	143	152
January, 1923	127	137	126	140	148
February	132	136	123	140	146
March	133	138	123	142	146
April	143	139	122	143	147
May	148	138	124	143	147
June	163	134	121	141	148
July	157	134	120	140	152
August	149	129	118	141	151
September	151	133	122	146	154
October	147	138	123	147	155
November	143	141	122	147	156
December	135	143	123	146	155
January, 1924	123	143	121	142	154
February	123	142	122	142	152
March	125	136	119	140	148
April	130	135	118	136	145
May	129	135	118	136	145
June	135	134	119	135	147
July	129	138	124	137	148
August	133	146	132	143	149

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[1] From United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

AVERAGES FOR 41 MONTHS

Prices paid to farmers for food	122
Prices of food at wholesale	140
Prices of food at retail	150

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

1910-1914 = 100

	N. Y.	Ohio*	Iowa	N. D.	Ore.	Ga.	Texas
1910	101	103	98	108	107	110	108
1911	97	89	87	101	97	103	98
1912	101	101	102	102	96	86	92
1913	97	103	103	89	98	98	100
1914	103	105	109	98	102	91	95
1915	100	104	107	123	106	80	93
1916	116	120	120	126	114	117	120
1917	170	181	181	199	168	184	177
1918	186	201	202	221	191	242	220
1919	206	216	211	237	198	238	222
1920	217	210	187	240	195	257	217
1921	144	130	102	125	119	105	105
1922	134	127	106	111	119	147	132
1923	142	133	113	105	119	202	167
1922							
January	142	115	95	100	108	131	116
February	139	123	99	101	109	125	113
March	138	131	108	125	120	130	121
April	132	131	104	131	113	130	123
May	138	135	109	132	122	126	123
June	138	128	110	132	127	144	132
July	141	127	110	119	128	152	139
August	125	119	110	114	121	159	136
September	124	121	98	75	116	157	140
October	122	127	107	98	121	156	134
November	131	130	110	101	121	177	150
December	136	134	116	107	123	181	157
1923							
January	127	133	118	102	125	190	161
February	132	134	112	108	120	200	164
March	133	133	111	108	123	215	173
April	143	134	111	113	119	211	175
May	148	139	113	117	123	191	165
June	163	140	112	109	127	190	158
July	157	131	110	102	127	191	163
August	149	132	108	97	116	181	162
September	151	129	114	99	115	190	153
October	147	129	113	105	114	210	166
November	143	130	114	104	116	221	177
December	135	129	114	103	109	233	186
1924							
January	123	128	113	111	111	244	191
February	123	130	113	113	110	238	185
March	125	128	111	117	108	211	171
April	130	130	110	113	106	220	167
May	129	130	112	111	109	212	164
June	135	127	111	110	113	201	165
July	129	....	119	125	118	198	166
August	133	....	130	129	....	202	175

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*Index numbers for Ohio were prepared by J. I. Falconer.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.

INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Corn, bu.	June	.808	.97	119	129
	July	.983	1.10	142	145
	August	1.074	1.26	151	164
Oats, bu.	June	.468	.58	112	114
	July	.494	.62	118	122
	August	.491	.64	122	125
Wheat, bu.	June	.985	1.12	108	110
	July	1.058	1.20	121	119
	August	1.168	1.31	137	136
Barley, bu.	June	.619	.79	96	99
	July	.688	.85	112	109
	August	.757	.96	132	125
Rye, bu.	June	.616	.80	84	100
	July	.688	.81	95	100
	August	.798	.93	114	118
Buckwheat, bu.	June	.965	1.00	127	130
	July	1.045	1.10	132	131
	August	1.239	1.30	160	160
Flaxseed, bu.	June	2.131	....	121	....
	July	2.181	....	130	....
	August	2.102	....	123	....
Beans, bu.	June	3.38	3.80	146	162
	July	3.28	4.00	143	165
	August	3.52	3.60	153	146
Cotton, lb.	June	.278	....	219	....
	July	.273	....	215	....
	August	.278	....	222	....
Hay, ton	June	13.75	16.80	111	103
	July	13.49	16.60	112	104
	August	12.95	15.00	112	102
Onions, bu.	June	1.55	1.50	123	118
	July	1.76	1.60	144	122
	August	1.69	1.55	151	148
Potatoes, bu.	June	1.007	.88	145	126
	July	1.090	.90	147	130
	August	1.113	1.10	125	125
Sweet potatoes, bu.	June	1.389	....	145	....
	July	1.307	....	142	....
	August	1.514	....	157	....
Apples, bu.	June	1.593	1.25	130	128
	July	1.413	1.29	138	147
	August	1.220	1.51	154	219
Horses, head	June	77.00	115.00	53	64
	July	77.00	117.00	54	67
	August	79.00	120.00	56	67

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	June	.205	.25	174	164
	July	.202	.25	170	164
	August	.200	.24	167	152
Eggs, doz.	June	.211	.25	126	125
	July	.231	.28	138	127
	August	.261	.35	152	140
Butter, lb.	June	.363	.43	154	154
	July	.370	.43	162	159
	August	.377	.43	160	154
Milk, 3.7% Pool price (Utica)	June	....	1.59	....	149
	July	....	1.67	....	133
	August	....	1.885	....	125
Milch cows, head	June	56.45	68.00	114	120
	July	55.46	67.00	113	119
	August	55.74	68.00	113	120
Beef cattle, cwt.	June	5.79	5.60	106	102
	July	5.65	5.40	106	99
	August	5.67	5.30	106	94
Veal calves, cwt.	June	7.91	10.00	117	127
	July	7.88	9.90	117	121
	August	7.94	10.30	115	121
Sheep, cwt.	June	7.09	6.00	149	142
	July	6.60	5.60	145	135
	August	6.32	5.30	143	123
Lambs, cwt.	June	11.21	12.70	178	191
	July	10.50	12.40	172	188
	August	10.15	11.40	179	180
Wool, lb.	June	.360	.40	206	200
	July	.343	.38	196	181
	August	.335	.38	188	190
Hogs, cwt.	June	6.55	7.70	91	104
	July	6.60	7.70	91	103
	August	8.54	8.80	114	114

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	June	33.50	120
	July	33.60	126
	August	35.30	128
Cottonseed meal	June	54.40	161
	July	55.00	163
	August	55.50	163

GENERAL BUSINESS

Normally the volume of business is either increasing or decreasing. It is rarely stable for any length of time. Industry has been on the decline for 15 months and it appears that if the volume of business changes again it will improve. Unfilled orders of the U. S. Steel Corporation increased in August following a steady decline for 14 months.

The U. S. Bureau of Labor index numbers of the general price level declined 14 months from April, 1923, to June, 1924. It advanced 2 points in July and 3 points in August. Since May of this year there has been an unusual rise in the prices of industrial stocks. Compared with pre-war, the indices of industrial stocks rose from 145 in May, 1924, to 165 in August. Easy money conditions that have existed for several months still prevail. Interest rates are 58 per cent of pre-war.

Altho urban business is depressed it appears that the recession is over; and the outlook for the future is favorable for improvement.

FARM PRICES

The index number of farm prices in the United States rose from 138 in July to 146 in August. The major part of this increase is attributable to the increases in the price of hogs which has resulted from the diminishing numbers and from the short corn crop. Altho the farm price of hogs advanced $1.94 per hundred pounds during August they are still very cheap, being but 14 per cent above pre-war. The index numbers of prices of corn, oats, wheat, barley, rye, buckwheat, beans, cotton, onions, sweet potatoes, apples, eggs, lambs, and hogs for August, 1924, were higher than for July.

The increases in prices are encouraging but they should not be heralded, as they have been, as the end of the agricultural depression. Farm prices of food as paid to farmers is 132 per cent of pre-war, wholesale prices of food in cities 143 and retail prices of food in cities 149 per cent.

Only 9 products, buckwheat, beans, sweet potatoes, apples, chickens, butter, lambs, wool, and cotton, are as high as the general price level. Rye, hay, milch cows, beef cattle, veal calves, and hogs are but little above the pre-war average. Horses are below the pre-war.

Index numbers of prices paid to producers for food products for August, 1924, were as follows: Georgia, 202; Texas, 175; New York, 133; Iowa, 130; North Dakota, 129; and the United States, 146. The index numbers of prices paid to producers for farm products for the above states were all higher than for the previous month.

The index numbers of prices paid to producers of New York farm products for August, 1924, stood at 133, four points above July. New York is the only state, for which index numbers are available, in which prices paid to producers were less in August than in June. The net pool price of 3.7 per cent milk at Utica, New York, for August, $1.88½, advanced 21½ cents over the July price, $1.67. The advance, however, was not as much as usually takes place at this time and the index number of milk prices fell from 133 in July to 125 in August. Fortunately it has not been necessary for dairymen to feed much high-priced grain. The abundant rains and the cool weather have produced an abundance of after-feed which has resulted in a greater production of milk per cow than would otherwise have occurred. Furthermore, the cool wet weather has probably decreased consumption.

F. A. PEARSON

INCOMES ON FRUIT FARMS IN WESTERN NEW YORK FOR THE PAST ELEVEN YEARS

How profitable Western New York fruit farming has been during the past eleven years is probably correctly indicated by the business returns given each year by the farmers in the Town of Newfane, Niagara County, New York. About one-half of the soil in the town of Newfane is classified as Dunkirk. This is one of the best fruit soils in Western New York. Between Lake Ontario and the R. W. and O. Railroad in the town of Newfane are the largest areas of Dunkirk sandy loam and gravelly sandy loam soils in Niagara County. On these soils has developed one of the most prosperous farming regions in Western New York. Apple and peach orchards occupy most of this choice land, but other tree fruits, as well as melons and tomatoes, are very successfully grown. In the southern half of this area a darker colored soil predominates. This Clyde soil usually lays very flat and is naturally poorly drained. Peach trees seldom live to bearing age on the Clyde soil. Other trees do not thrive as well on this soil as they do on the Dunkirk.

What the farmers have made for their year's work on these fruit farms is shown in the following table. Labor income is the amount left for the farmer's labor after all expenses and interest at 5 per cent on the total farm capital have been deducted from the farm receipts.

LABOR INCOMES ON FRUIT FARMS

Newfane Township, Niagara County, N. Y.

	Average Labor Income		Per Cent of Farms Making Labor Incomes Minus		Per Cent of Farms Making Labor Incomes $1000 or more		Total Number of Farms	
Year	Clyde Soil	Dunkirk Soil	Clyde Soil	Dunkirk Soil	Clyde Soil	Dunkirk Soil	Clyde Soil	Dunkirk Soil
1913	$820	$1426	19	14	42	52	31	56
1914	-256	-833	74	75	0	2	42	55
1915	62	-174	40	61	3	16	30	51
1916	280	274	33	35	12	22	48	40
1917	197	915	32	18	10	36	60	53
1918	534	1148	18	23	22	46	85	74
1919	207	946	30	38	10	38	80	77
1920	32	493	48	32	15	25	87	91
1921	-20	241	48	51	9	27	87	84
1922	22	461	50	37	10	29	88	90
1923	-229	-182	62	54	5	14	105	80
11-yr. av.	150	429	41	40	13	28	68	68

Only twice in the eleven years did the Clyde farmers on the average receive as much as hired men's wages for their year's work. Their greatest losses occurred in 1914 and 1923 when the farm expenses and interest exceeded the farm receipts by over $200. In such a very poor year as 1914 the losses averaged much more on the Dunkirk farms because of the larger orchards. When the peach crop was a total failure and when apples did not bring enough to pay for the barrels and picking which happened in 1914, the more acres of fruit a farmer had, the more he lost. In good years the profits are limited by the size of the orchards and the largest profits are only possible on large farms. The best year was in 1913 when both peaches and apples yielded very well and brought a very good price. Apples were again very profitable in 1918, but the peach crop was a failure. In 1920, the peach yield was good and they sold very well, but apple prices were very low. In 1923 there was not much more than half a crop of apples and peaches, and the prices for both were low. Low yields and low prices are a very unprofitable combination and 1923 was the most unprofitable year since 1914.

The labor incomes for the eleven-year period averaged $429 on the Dunkirk and $150 on the Clyde. Hired men on these farms, who were furnished a house to live in, and potatoes, milk, pork and other farm products for their table, were paid an average of $549 in cash for their year's work. On the average, therefore, Dunkirk farmers received about three-fourths as much as did the hired men and Clyde farmers a little more than one-fourth as much.

FARM INCOME AND INTEREST EARNED ON THE FARM CAPITAL

Newfane Township, Niagara County, N. Y.

Year	Number of Farms	Farm Income if no indebtedness	Unpaid Family Labor.	Cash Paid Year Man	Amount Left for Capital Earnings	Total Farm Capital	Per Cent Earned on Farm Capital
1913	87	$2226	$104	$407	$1715	$18200	9.4
1914	98	534	184	427	-77	18597	-0.4
1915	81	876	137	447	292	18331	1.6
1916	87	1170	119	439	612	15322	4.0
1917	113	1420	133	448	839	15058	5.6
1918	159	1690	118	508	1064	14962	7.1
1919	156	1451	133	629	689	14994	4.6
1920	178	1367	226	750	391	17474	2.2
1921	171	1143	168	651	324	16722	1.9
1922	178	1307	180	656	471	17664	2.7
1923	185	760	156	680	-76	16174	-0.5
11 yr. av.	136	1268	151	549	567	16681	3.4

The income per farmer's family averaged about $1,100 for the eleven-year period, if interest paid on indebtedness were included in the expenses. In 1923, 47 per cent of these farms were mortgaged. The mortgage averaged about $5,000. The farmer's house had an average value of approximately $2,600. Extra houses on these farms were sometimes rented but the rental value was low. One could probably rent in this neighborhood as good a house as most of these farmers lived in for less than $200 per year. Most of the milk, butter, eggs, potatoes and fruit used by the farmer's family were raised on the farm and the value of all such food products in 1919 averaged $362. Fire wood from trimmings in the orchard and sometimes from a woodlot furnished an average of fourteen cord used per farmer's family, valued at $39 in 1919. It is necessary to consider the value of these items in comparing the returns from farming with city occupations.

The farm work performed by the farmer's children and his wife was valued at $151 on the average which is the equivalent of one hired man for a little over three months. If the farmer's time was valued at hired man's wages, there was on the average $567 left for interest on owned and borrowed capital. Allowing nothing for the farmer's managerial ability, the average rate on the capital that most farmers have actually invested in their business was 3.4 per cent. Since 1913, over one-third of the farms have changed hands between non-relatives and 11 per cent between relatives. If we include the number of farmers that have bought extra land, then slightly over half of the farms have changed owners since 1913. Usually farms were valued at cost or at what they would readily sell for. If these farmers during the past eleven years were to get something for their managerial ability and the usual rate of interest on their investment, it would be necessary to reduce the value of these farms 50 per cent or more. Any such reductions in value would make it impossible under present costs of labor and nursery stock to replace old orchards. The present cost of growing orchards is probably as high as their present sale value, even if the bare land has little or no value.

Fruit farming is more speculative than are the more general cash crop and dairy types. There have been four different farms in this area that for one year made a labor income of about $10,000. If one is fortunate enough to have a large crop of fruit in a year when prices are high, unusual profits may be made. The hope that one's turn may come is an incentive to the large intensive fruit grower though he has made little or nothing in the past.

The low incomes on these farms in recent years were not due to the war time inflation in land values which took place in some agricultural districts. No increases or decreases in land values were included in these financial summaries. Those farmers, who sold their farms at increased prices had additional income not here considered.

G. P. SCOVILLE

POTATO PRODUCTION AND PRICES

A potato crop this year of 426 million bushels in the United States should bring about the normal or usual price. This estimate is based on present population and allows for such an increase in the rate of production per capita as has taken place during the past fifty years. The September 1 forecast for this year's potato crop is 413 million bushels, which is about the same as last year's final estimate. This is about three per cent under the normal production of 426 million bushels. In past years a one per cent change in the size of the potato crop has caused on the average a 1.7 per cent change in potato prices. A shortage of 3 per cent in the crop would, therefore, cause on the average an increase of 5 per cent in price. Assuming a general price level for this coming season of 150, when 1913 is 100, and if the potato crop is 3 per cent short, then the most likely price for State and Western potatoes per 180 pounds on the New York City wholesale market from October to June would be $3.84. In years when the potato crop has been slightly below normal, the price for the month of October has averaged 80 per cent of the season's price. Eighty per cent of $3.84 is $3.07. In the past three years potatoes have not sold as high in New York City as the forecasted prices. Compared with the prices of other things, potatoes, like most other farm products, have sold for less than formerly.

This year's potato crop compared with the crops for the last 3 years is forecasted as the largest in some of the southern regions. The Virginia potato crop is about one-quarter larger than the 3-year average. Because of the backwardness of the season and the large crop, North Carolina shipped many more potatoes to New York City this July than usual, and Virginia likewise shipped many more this August. There were also as many carloads received in New York from New Jersey this August as in 1922, the year New Jersey had such a very large crop. Because of these nearby large shipments, potatoes this summer have been cheap in New York. The average price of Long Island potatoes per barrel or 165-pound bag for this August was $2.25.

It is reported that Long Island, on account of drought, has a short potato crop this year. The forecast for the total New York State crop, however, is 6 per cent above the 3-year average. The outlook for the up-state crop therefore is very good. Maine's crop is 5 per cent below the 3-year average. The potato crop forecasts are shortest in the far west. The September forecast for Colorado is nearly one-third less than the 3-year average. Idaho's crop is also short.

The weather after September 1 has a very important influence on the yield of potatoes. The September forecast has varied from 6 to 13 per cent from the final estimate in 6 of the past 10 years. If late blight became generally severe the potato crop would be greatly reduced. The October forecast has usually been much closer to the final estimate than the September. This estimate will be published by the government about October 9.

G. P. Scoville

PRICES OF STATE POTATOES

Prices for Potatoes to Farmers at Batavia, N. Y.

The prices paid at Batavia, N. Y., to farmers for potatoes by one produce firm and its predecessors in business for 32 years are given in Table 1. Since 1917 prices are for U. S. No. 1 grade potatoes.

TABLE 1.—PRICES PAID TO FARMERS AT BATAVIA, N. Y., FOR POTATOES

Cents Per Bushel

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1892-93	50	50	57	75	75	65	63	......	......
1893-94	40	42	50	45	45	45	45	45	......
1894-95	......	......	40	40	45	57	66	75	......
1895-96	......	......	40	42	45	55	67	40	......
1896-97	18	16	15	18	20	13	12	18	......
1897-98	50	60	62	62	70	70	70	85	......
1898-99	25	30	30	35	35	53	60	......	. ...
1899-00	25	30	40	50	48	40	40	30	30
1900-01	35	35	40	50	50	40	35	40	......
1901-02	50	55	75	70	60	62	70	65	......
1902-03	50	52	50	50	50	52	60	60	......
1903-04	44	49	55	60	70	80	100	100	....
1904-05	42	38	36	31	25	29	19	19	19
1905-06	54	63	60	56	50	56	55	69	73
1906-07	40	40	35	30	32	35	45	55	55
1907-08	......	50	50	55	65	65	72	70	70
1908-09	55	65	65	65	65	72	92	75	75
1909-10	......	42	40	40	38	33	22	22	22
1910-11	38	38	38	35	32	30	48	50	55
1911-12	60	65	90	100	95	100	132	125	115
1912-13	35	45	45	50	50	48	45	48	60
1913-14	63	65	63	65	60	60	68	72	65
1914-15	30	30	30	32	28	26	32	25	30
1915-16	......	60	75	100	100	95	100	90	90
1916-17	......	150	145	180	250	300	300	300	275
1917-18*	75	75	102	100	93	81	73	60	60
1918-19	100	95	100	102	90	84	118	135	120
1919-20	119	126	145	206	214	261	342	349	......
1920-21	......	101	70	65	44	51	29	26	......
1921-22	96	94	100	108	98	98	87	99	......
1922-23	47	49	50	51	47	53	99	73	......
1923-24	71	64	65	75	75	74	74	......	......

*Since 1917 prices are for U. S. No. 1 potatoes.

Because of violent changes in prices in some of the years the actual prices have been divided by index numbers of wholesale prices in the United States to get a normal long-time average.

In terms of the general price level using 1910-1914 as 100 the average price per bushel to farmers at Batavia for the 32 years 1892 to 1923 inclusive was for October 49 cents, for November 53 cents, for December 56 cents, for January 60 cents, for February 61 cents, for March 63 cents, for April 69 cents, for May 68 cents, for June 63 cents.

The prices per bushel for No. 2 potatoes for the seven years ending in 1923-24 are given in Table 2.

TABLE 2.—PRICES PAID TO FARMERS AT BATAVIA, N. Y., FOR NO. 2 POTATOES

Cents per bushel

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1917-18	42	42	69	67	60	48	40	27	27
1918-19	50	48	50	51	45	42	59	68	60
1919-20	58	61	72	102	109	128	162	181	......
1920-21	....	51	37	34	21	20	13	11	......
1921-22	48	46	60	51	49	50	74	50	......
1922-23	19	24	25	24	20	73	......	51	......
1923-24	....	32	27	38	37	37	36	......	......

The average difference in the price paid by this firm for No. 1 and No. 2 potatoes is shown in Table 3.

TABLE 3.—AVERAGE DIFFERENCE IN PRICE TO FARMERS FOR NO. 1 AND NO. 2 POTATOES AT BATAVIA, N. Y.

Month	Years of data	Average price, cents per bushel No. 1	No. 2	Difference in cents per bushel	Per cent which No. 2 price is of No. 1 price
October,	1917-18-19-21-22	87	43	44	49
November,	1917-23	86	43	43	50
December,	1917-23	90	49	41	54
January	1917-23	101	52	49	52
February,	1917-23	94	49	45	52
March,	1917-23	100	57	43	57
April,	1917-18-19-20-21-23	120	64	56	53
May,	1917-22	124	65	59	52
Average		100	53	47	53

Difference Between Prices to Long Island, and to Up-State Growers

Prices of Long Island potatoes appeared in the preceding number of FARM ECONOMICS. Long Island potatoes have long enjoye a price premium on the New York Market. This is due chiefly t smoothness, uniformity in size and to mealiness in cooking. The price difference between Long Island and State stock might be expected to be less when there is a large crop of Jersey and souther potatoes, or a delayed marketing of the southern crop, or a poo quality of Long Island potatoes, or extra good quality of stat stock, or a light crop in general so that potatoes are expensive. I might be expected to be more when there is a very large crop o potatoes in the United States so that all potatoes are cheap.

The 20-year average difference in the actual price paid to on farmer at Riverhead, Long Island, and to farmers at Batavia, N. Y. for October was 30 cents per bushel or 55.6 per cent higher and fo November 30 cents per bushel or 52.6 per cent higher at Riverhea than at Batavia, Table 4.

TABLE 4.—COMPARISON OF ACTUAL PRICES TO GROWERS AT RIVERHEAD, N. Y., AND AT BATAVIA, N. Y., 20 YEARS

	Cents per bushel					Cents per bushel			
	Batavia		Riverhead			Batavia		Riverhead	
Year	Oct.	Nov.	Oct.	Nov.	Year	Oct.	Nov.	Oct.	Nov.
1893	40	42	68	65	1912	35	45	74	85
1896	18	16	40	35	1913	63	65	88	78
1898	25	30	46	50	1914	30	30	58	60
1899	25	30	45	45	1917	75	75	164	150
1901	50	55	71	75	1918	100	95	154	150
1903	44	49	65	66	1919	119	126	135	160
1904	42	38	59	57	1921	96	94	142	150
1905	54	63	62	85	1922	47	49	52	70
1908	55	65	85	85	1923	71	64	119	110
1910	38	38	59	60	Average	54	57	84	87
1911	60	65	86	98					

Wholesale Prices of State Potatoes in New York, N. Y.

The average of the high and low quotations for many years of state potatoes in bulk per 180 pounds, taken from the Saturday issues of the *Producers' Price-Current*, prepared by G. P. Scoville and appearing in FARM ECONOMICS No. 7, September 25, 1923, with the addition of three years by Professor Scoville are rearranged chronologically and reprinted here for comparison with growers' prices.

TABLE 5—AVERAGE MONTHLY WHOLESALE PRICES OF STATE POTATOES, BULK PER 180 POUNDS, IN NEW YORK, N. Y.

By G. P. Scoville, from the Producers' Price-Current

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1892-1893	$1.92	$2.03	$2.21	$2.56	$2.44	$2.32	$1.97	$2.25	$1.88
1893-1894	1.78	1.73	1.67	1.68	1.68	1.61	1.90	2.22	2.83
1894-1895	1.56	1.53	1.57	1.60	1.88	2.00	2.25	1.78	1.47
1895-1896	.94	.82	.84	.76	.70	.66	.62	.61	.57
1896-1897	1.08	1.06	1.02	1.11	1.02	.86	.87	1.03	1.54
1897-1898	2.01	2.04	2.15	2.13	2.22	2.26	2.45	2.74	1.50
1898-1899	1.31	1.33	1.39	1.42	1.50	1.87	2.21	1.56	1.53
1899-1900	1.23	1.36	1.63	1.74	1.72	1.73	1.52	1.30	1.17
1900-1901	1.37	1.39	1.62	1.66	1.56	1.42	1.44	1.66	2.21
1901-1902	2.02	2.29	2.44	2.33	2.33	2.42	2.62	2.36	2.40
1902-1903	1.70	1.87	1.76	1.85	1.88	1.91	1.78	1.95	2.87
1903-1904	1.70	1.78	2.24	2.49	2.91	2.94	3.58	3.18	3.12
1904-1905	1.54	1.54	1.50	1.47	1.38	1.25	1.10	.92	.88
1905-1906	1.93	2.30	2.12	2.12	1.88	1.92	2.41	2.35	2.57
1906-1907	1.66	1.56	1.46	1.52	1.70	1.58	1.67	2.25	2.02
1907-1908	1.91	1.88	2.03	2.09	2.37	2.38	2.59	2.50	2.62
1908-1909	2.05	2.33	2.31	2.38	2.36	2.51	2.74	2.73	2.90
1909-1910	1.80	1.64	1.62	1.62	1.52	1.39	1.08	1.23	1.20
1910-1911	1.57	1.52	1.45	1.50	1.43	1.33	1.81	1.64	2.24
1911-1912	2.33	2.64	2.85	3.34	3.40	3.71	4.08	3.86	2.38
1912-1913	1.64	1.81	1.98	1.94	1.96	1.81	1.90	2.22	1.35
1913-1914	1.98	2.14	2.06	2.35	2.44	2.29	2.47	2.40	2.86
1914-1915	1.61	1.62	1.40	1.42	1.32	1.33	1.50	1.33	1.17
1915-1916	2.19	2.27	2.70	3.44	3.45	3.49	3.30	3.28	3.73
1916-1917	3.96	4.92	4.74	5.78	7.94	7.98	9.06	9.72	10.03
1917-1918	4.69	4.02	4.05	4.99	4.38	3.41	3.27	2.72	3.28
1918-1919	3.99	3.81	3.96	4.16	3.62	3.46	4.47	4.35	2.59
1919-1920	4.01	4.63	5.26	6.75	7.88	9.81	12.56	13.00	12.67
1920-1921	3.96	3.88	3.42	3.09	2.60	2.53	2.28	2.00	1.75
1921-1922	3.60	3.76	3.62	4.20	3.98	3.69	3.30	2.68	2.43
1922-1923	2.47	2.39	2.45	2.60	2.77	3.46	3.38	3.08	2.86
1923-1924	3.22	3.10	2.88	3.40	3.26	3.22	3.20	3.23	3.73
Average	$2.21	$2.28	$2.32	$2.55	$2.61	$2.64	$2.86	$2.82	$2.76

When corrected for the general price level using 1910-1914 as 100, the average wholesale prices of state potatoes in New York, N. Y., on the bushel-basis for the same months that prices appear for in Table 1, for 32 years, 1892-1923, inclusive ,was 67 cents for October, 70 cents for November, 71 cents for December, 76 cents for January, 77 cents for February, 77 cents for March, 82 cents for April and 80 cents for May and 74 cents for June. The average trend of wholesale city prices for state potatoes is to increase 22 per cent from October to April, but to decrease in May, and to further decrease in June when more new southern potatoes are offered. In years of a real large crop, however, the April price averages less than the October price and in years of a real short crop the increase in price from October to April is twice as much as the average.

Difference Between Growers' and Wholesale Prices

The difference in the actual wholesale price in New York, N. Y., of State and of Long Island potatoes the same years that appear in Table 4, averaged 23 cents per bushel or 30.3 per cent in October and 23 cents per bushel or 29.1 per cent in November, higher for Long Island stock. The difference between the Long Island growers' actual price and the wholesale price of Long Island potatoes in New York, N. Y., was 15 cents a bushel for both October and November, and between the up-state growers' actual price at Batavia, N. Y., and the wholesale price of state potatoes 22 cents a bushel for both October and November for the 20 years included. The reason for omitting other years and other months was because data for both areas were not at hand. The present difference in freight rate from Riverhead and from Batavia to New York, N. Y., is 11 cents a hundredweight or 6.6 cents a bushel. A study of these prices plainly indicates the close adjustment of price. When the difference in freight is allowed for, persons engaged in marketing up-state potatoes have received about the same for their services as persons handling Long Island potatoes.

The actual prices may be summarized as follows:

	Cents per bushel 20-year average	
	October	November
Price to Long Island growers	84	87
Price to up-state growers	54	57
Difference	30	30
Per cent of state price	55.6	52.6
Wholesale price of Long Island potatoes in New York, N. Y.	99	102
Wholesale price of state potatoes in New York, N. Y.	76	79
Difference	23	23
Per cent of state price	30.3	29.1
Difference between prices paid to Long Island growers and the N. Y. City wholesale prices	15	15
Difference between prices paid to Up-state growers and N. Y. City wholesale prices	22	22

The monthly differences between the prices to growers at Batavia and the wholesale prices in New York, N. Y., of state potatoes, when corrected for the price level were as shown in Table 6.

TABLE 6—MONTHLY DIFFERENCES BETWEEN GROWERS' PRICES AT BATAVIA, N. Y., AND WHOLESALE PRICES OF STATE POTATOES IN NEW YORK, N. Y.

	Number of years included	Growers' price corrected for price level	New York wholesale price corrected for price level	Difference wholesale above growers' price
		Cents per bushel		
October	25	49	67	18
November	30	53	70	17
December	32	56	71	15
January	32	60	76	16
February	32	61	77	16
March	32	63	77	14
April	32	69	82	13
May	29	68	80	12
June	16	63	74	11
Average	......	60	75	15

The difference between growers' and wholesale-city prices is greatest in October, diminishes to December then increases in January and February and declines sharply as the marketing season advances. The decreased marketing in December causes dealers to operate on narrower margins. In January and February farmers need money for taxes, renewed marketing takes place, the anxiety of shippers to get business lessens, and the margins widen. By March the second rush in selling is over and the farmer is again on the defensive, with consequent narrower margins. For 16 years the average difference in June corrected for price level was 11 cents a bushel or 17 per cent of the growers' price. The 23-year average for October was 18 cents a bushel or 37 per cent of the growers' price. The simple average for all months was 25 per cent of the growers' price.

Some of the reasons why the grower-wholesale margin is greater in the fall are (1) more potatoes are offered then, than later,—that is, dealers have plenty of shipping business and can maintain wider margins. (2) The city price is likely to be influenced by heavy harvest time marketing making margins more uncertain, than when only winter out-of-storage shipments occur. The smaller amount of daily business in the later months encourages more competition on the buying end and thus narrower margins. The farmer has better bargaining power later in the season than at harvest time, when because of lack of storage, the need for money, and the lack of the desire to take a chance on the trend of winter prices, a large proportion of the late potato crop is moved. Also since some potatoes are stored by dealers to cover the risks of storing a wider margin must be allowed than is necessary when potatoes are bought for immediate shipment, as later in the season.

Western New York Rainfall and Prices of State Potatoes

Rainfall records from the weather stations at Avon, Lockport, Rochester, Lyons, Geneva, Skaneateles, Penn Yan, Syracuse and Cortland, were used to indicate the variation in rainfall in the chief up-state New York potato producing region. The relation of the total July, August, and September rainfall at these stations in per cent of normal to the average October to June inclusive wholesale price of state potatoes in New York, N. Y., and to the November price to growers at Batavia, N. Y., both corrected for price level is shown in Table 7.

In years of light rainfall, less than 85 per cent of normal, the prices of potatoes both to farmers in the fall and throughout the season in the city averaged 17 per cent higher than usual. The U. S. crop averaged 96 per cent of normal in those years. In wet years, with over 110 per cent of normal rain, the price was about 90 per cent of or 10 per cent less than normal. The U. S. crop in those years averaged 106 per cent of normal. In one-third of the years not enough rain falls in New York to grow an average crop of potatoes, and, as the country wide production generally is less in those years the price is relatively high.

TABLE 7—RELATION OF JULY, AUGUST AND SEPTEMBER RAINFALL IN WESTERN NEW YORK TO WHOLESALE PRICES OF STATE POTATOES IN NEW YORK, N. Y., AND TO GROWERS' NOVEMBER PRICES AT BATAVIA, N. Y.

Rainfall in per cent of normal Range	Average	Number of years of wholesale prices	U. S. crop in per cent of normal	*New York wholesale' prices in per cent of 30 years' average	Per cent of total number of years when wholesale price was above average	Number of years of growers' prices	†November price to growers at Batavia in per cent of 32 years average
Less than 85	77	8	96	117	50	8	117
85-110	97	12	103	97	42	13	97
Over 110	122	10	106	90	30	11	92

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* October to June average per 180 pounds corrected for price level.
† Corrected for price level.

E. G. MISNER

COURSES IN MARKETING AND AGRICULTURAL BUSINESS OFFERED BY THE DEPARTMENT OF AGRICULTURAL ECONOMICS AND FARM MANAGEMENT OF THE NEW YORK STATE COLLEGE OF AGRICULTURE

During the 1924 session, the New York legislature made an appropriation "to establish a course or courses in the study of marketing and agricultural business . . . and provide for such research work as may be necessary to properly conduct the study of marketing and agricultural business."

For many years the agricultural colleges have been dealing successfully with the problems of production and have contributed much to the enormous increase in production per worker engaged in agriculture. During the past ten years, the production of crops per worker has increased nearly one-fifth. There has been a steadily growing insistence on the part of farmers that the same methods of scientific study be applied to the marketing processes, and the legislative appropriation referred to is a response to this demand.

The primary aim of this work is the more efficient and economical marketing of farm products and farm supplies. Through extension work, home study courses, winter courses, and regular college courses, instruction will be offered to farmers, to men engaged in marketing farm products or supplies, and to men preparing to enter these occupations.

Interested persons should write to the Secretary of the New York State College of Agriculture for announcement describing the courses to be offered in the regular and winter courses.

W. I. MYERS

FARM ECONOMICS

Department of Agricultural Economics and Farm Management
NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 19 October 25, 1924

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Prices of 10 basic commodities Harvard	Prices of 20 industrial stocks	Interest rates 4-6 mos. comm'l paper[2]	Unfilled orders U. S. Steel Corporation[2]	Weekly earnings N. Y. factory workers[3]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	149	86	118	197
1923	157	161	163	152	95	126	214
Jan., 1923	159	160	174	157	94	132	206
February	160	165	178	163	102	135	204
March	162	169	177	167	102	141	212
April	162	170	178	163	104	145	213
May	159	166	172	154	104	145	218
June	156	161	164	150	100	137	219
July	154	156	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	158	153	145	85	114	216
October	156	158	150	140	85	106	218
November	155	155	149	146	87	97	218
December	154	154	153	151	92	93	220
Jan., 1924	154	156	153	156	100	92	219
February	155	156	153	158	102	91	218
March	153	152	151	154	95	91	222
April	151	149	144	147	94	84	218
May	150	148	141	145	88	76	217
June	148	146	141	148	83	70	214
July	150	148	137	157	70	69	214
August	153	151	144	165	58	72	216
September	152	152	145	165	53	79	221
October	....	....	143	....	....	....	....

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[1] Copyrighted by Irving Fisher. [2] Corresponding months 1910-1914 = 100. [3] June, 1914 = 100.

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

	Farm Prices		Prices of Food in the United States		
Year	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
1923	142	137	122	143	151
June, 1922	138	129	129	139	145
July	141	129	126	141	146
August	125	125	120	137	143
September	124	119	113	137	144
October	122	122	117	139	147
November	131	129	120	142	149
December	136	134	124	143	152
January, 1923	127	137	126	140	148
February	132	136	123	140	146
March	133	138	123	142	146
April	143	139	122	143	147
May	148	138	124	143	147
June	163	134	121	141	148
July	157	134	120	140	152
August	149	129	118	141	151
September	151	133	122	146	154
October	147	138	123	147	155
November	143	141	122	147	156
December	135	143	123	146	155
January, 1924	123	143	121	142	154
February	123	142	122	142	152
March	125	136	119	140	148
April	130	135	118	136	145
May	129	135	118	136	145
June	135	134	119	135	147
July	129	138	124	137	148
August	133	146	132	143	149
September	129	137	129	146	151

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[1] From United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

AVERAGES FOR 42 MONTHS

Prices paid to farmers for food	122
Prices of food at wholesale	140
Prices of food at retail	150

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.

INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Corn, bu.	July	.983	1.10	142	145
	August	1.074	1.26	151	164
	September	1.097	1.29	150	159
Oats, bu.	July	.494	.62	118	122
	August	.491	.64	122	125
	September	.471	.60	120	122
Wheat, bu.	July	1.058	1.20	121	119
	August	1.168	1.31	137	136
	September	1.142	1.30	131	135
Barley, bu.	July	.688	.85	112	109
	August	.757	.96	132	125
	September	.756	.90	128	118
Rye, bu.	July	.688	.81	95	100
	August	.798	.93	114	118
	September	.801	.88	111	111
Buckwheat, bu.	July	1.045	1.10	132	131
	August	1.239	1.30	160	160
	September	1.188	1.15	159	151
Flaxseed, bu.	July	2.181	....	130	....
	August	2.102	....	123	....
	September	2.012	....	118	....
Beans, bu.	July	3.28	4.00	143	165
	August	3.52	3.60	153	146
	September	3.72	4.00	162	162
Cotton, lb.	July	.273	....	215	....
	August	.278	....	222	....
	September	.222	....	182	....
Hay, ton	July	13.49	16.60	112	104
	August	12.95	15.00	112	102
	September	12.68	14.80	109	98
Onions, bu.	July	1.76	1.60	144	122
	August	1.69	1.55	151	148
	September	1.62	1.34	162	165
Potatoes, bu.	July	1.090	.90	147	130
	August	1.113	1.10	125	125
	September	.810	.85	101	96
Sweet potatoes, bu.	July	1.307	....	142	....
	August	1.514	....	157	....
	September	1.570	....	168	....
Apples, bu.	July	1.413	1.29	138	147
	August	1.220	1.51	154	219
	September	1.100	.95	157	153
Horses, head	July	77.00	117.00	54	67
	August	79.00	120.00	56	67
	September	78.00	118.00	56	67

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Chickens, lb.	July	.202	.25	170	164
	August	.200	.24	167	152
	September	.198	.23	166	147
Eggs, doz.	July	.231	.28	138	127
	August	.261	.35	152	140
	September	.318	.41	165	152
Butter, lb.	July	.370	.43	162	159
	August	.377	.43	160	154
	September	.382	.44	155	147
Milk, 3.7% Pool price (Utica)	July	....	1.67	....	133
	August	....	1.885	....	125
	September	....	2.095	....	132
Milch cows, head	July	55.46	67.00	113	119
	August	55.74	68.00	113	120
	September	55.54	68.00	112	119
Beef cattle, cwt.	July	5.65	5.40	106	99
	August	5.67	5.30	106	94
	September	5.53	5.70	103	101
Veal calves, cwt.	July	7.88	9.90	117	121
	August	7.94	10.30	115	121
	September	8.09	10.50	115	120
Sheep, cwt.	July	6.60	5.60	145	135
	August	6.32	5.30	143	123
	September	6.30	5.70	144	140
Lambs, cwt.	July	10.50	12.40	172	188
	August	10.15	11.40	179	180
	September	10.18	11.40	181	185
Wool, lb.	July	.343	.38	196	181
	August	.335	.38	188	190
	September	.355	.42	205	200
Hogs, cwt.	July	6.60	7.70	91	103
	August	8.54	8.80	114	114
	September	8.50	8.80	112	111

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	July	33.60	126
	August	35.30	128
	September	35.60	127
Cottonseed meal	July	55.00	163
	August	55.50	163
	September	55.10	161

BUSINESS CONDITIONS

Consumption of most commodities has continued at a high level in 1924, but for some time storekeepers, wholesalers, and manufacturers have bought only to meet their immediate needs. This "hand-to-mouth" policy has checked production, and business is below normal. When business activity begins, the demand will be greater than consumption, because thruout the channels of trade there will be a tendency to buy not only for immediate needs, but for the future as well. Just as the caution in buying decreases orders below the rate of consumption, so active buying provides more orders than are necessary to supply the consumption of the day.

Apparently improvement in business conditions has begun. There has been slight recovery in the manufacture of textiles, steel, and railway equipment.

Weekly earnings of factory workers are 7 points above the low of the year. Fisher's index of the general price level stands at 152, six points above the June index. The United States Bureau of Labor Statistics index of wholesale prices is 4 points above the June level.

Interest rates on 4 to 6 months commercial paper in September were about half of the pre-war rates. This shows the strength of the banking situation and shows how keenly short-time investments are being sought. Ultimately such low interest rates stimulate business activity. Apparently this stimulus has begun to be effective. Judging by the various index numbers, a considerable increase in business activity seems likely to occur by next spring. All the signs suggest that the year 1925 is likely to be a year of activity in city industries.

FARM PRICES

The index number of prices of all farm products for the United States rose from 134 in June to 146 in August, and then fell to 137 in September. The decline was due primarily to large decreases in the prices of cotton and potatoes. The index number for all farm products is about the same as last year. Some things have risen just enough to offset declines in others.

Farm products for which the price index numbers advanced were: beans, sweet potatoes, onions, apples, eggs, sheep, lambs, and wool.

Products for which the price index numbers fell were: corn, oats, wheat, barley, rye, buckwheat, flaxseed, cotton, hay, potatoes, chickens, butter, milk cows, beef cattle and hogs.

The index number of prices paid to producers for food in the United States, altho it declined from 132 in August to 129 in September, is well above the low of 118 in April and May of this year. A year ago this index number was 122 or 7 points below the index this year. This approximately represents the amount of change in the situation for northern farmers as a whole. In the Northwest, the improvement has been much more than the average figures indicate. In other regions such as the dairy regions of the East, no improvement in prices has occurred.

The price index for North Dakota is 19 points above September of last year. The improvement is even more than this indicates because the quantity of wheat for sale is much greater than last year.

The price index for Iowa is 14 points above September last year, but in this case the improvement is less than the prices indicate because the supply of hogs and corn for sale is less than last year. In New York the index number is 22 points below September last year.

Altho the prices paid to farmers for food have risen 11 points above the low of last spring, food at retail is only 6 points above last spring. This follows the general principle discussed in Farm Economics No. 14, that changes in farm prices are greater than changes in retail prices, since handling charges change very little.

G. F. WARREN and F. A. PEARSON

EUROPEAN CONDITIONS AFFECTING AGRICULTURE

Wheat

The outstanding fact in this year's agriculture is the unusual wheat situation. The acreage of wheat in the world was reduced. The weather in Canada was so unfavorable that the crop is only 62 per cent of the large crop of last year. Wheat in much of Europe winter-killed badly, and the summer in Europe was unusually cool and late. Much of the crop was damaged by cold, wet weather at harvest time. Considerable of the grain sprouted or molded so that it is unfit for milling purposes. The world crop is only 90 per cent of last year's. Coupled with all of these unfavorable conditions, the crop in the United States is 6 per cent larger than last year. American farmers, therefore, have a good crop at a time when the world crop is short.

TABLE 1.—PRODUCTION OF WHEAT*—(Millions of bushels)

	1923	1924	Percentage 1924 is of 1923
World crop	3045	2754	90
United States crop	786	837	106
Canadian crop	474	292	62

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* Foreign Crops and Markets, U. S. D. A., September 24, 1924, Vol. 9, No. 13, p. 305.

The five-year average September price paid to American farmers for wheat before the war was 87.4 cents. Last year's September price was 88.7 cents. This year it was $1.14. The price this year appears to be a moderate price considering the world situation.

Hogs

In Europe as well as in the United States the slaughter of hogs has been taking place at a very rapid rate. The short corn crop makes rapid slaughter probable for some time to come. Apparently the cycle of high hog production is past and it is probable that hogs will rise in price for a year or two. The peaks of high prices are usually about five years apart. The last peak was in June, 1922, and the low point came last April. If the present cycle is of average length the peak of prices will be expected to come in the summer of 1926.

Agricultural Depression in Europe

Agriculture is in much better condition in Europe than in the United States. The agricultural depression began in this country nearly a year before it began in England, Denmark, and Holland. Since Germany continued financial inflation until last year, her agriculture was stimulated until that time. Then instead of deflation with resulting heavy burden of public and private debts, a new currency was established. Debts are very small except for reparations. Another reason for the depression being less severe in Europe is the relation between farm, wholesale, and retail prices that are frequently discussed in this publication. The price of wheat and pork at New York include the farm price plus handling charges all the way from the farmer's wagon. These charges are generally about double the pre-war so that wholesale prices have fallen much less than farm prices. The European farmer is so near the consumer that his prices are more like American wholesale prices than like American farm prices. The same principle is illustrated in American farming regions that are close to large central markets. Prices in such regions have fallen less than have prices in more distant regions.

Foreign Trade

The most striking economic change in Europe since 1921 is the currency change which was made in Germany last November and now seems to be well established. Before this change occurred, a trillion marks which should have been worth ten times the national debt of the United States were worth the price of a meal. One day in November, 1923, the new currency was established—the "renten" mark. This has become the common currency and has been kept substantially at par. In September, 1924, Americans in Berlin paid about 24 cents per mark. Very few of the old marks are now being used. So far as they are used, one trillion passes as one "renten" mark. The country is short of currency. Probably the recent loan will allow a larger gold basis for the present circulation and allow some increase in the circulation. Only a few European countries have a currency that is so near par as is the German "renten" mark. Germany is now a country with very small private indebtedness and very little public debt except for reparations. She has, therefore, passed from stimulated agriculture due to inflation to a substantially normal agriculture without going thru a period of deflation.

European agriculture has suffered less from deflation than has the agriculture in exporting nations. European countries are very anxious to reduce imports so as to improve their balance of trade and ultimately improve their bank reserves. They are, therefore, bending every effort to become as nearly self-sufficient as possible. In this, they are meeting with considerable success. It is to be expected that the demand for American food products will gradually decline, and will after a time reach the pre-war level, or may be lower than that amount.

The unstable conditions as to production and even more unstable conditions of currency have made the tariff problem one of the most important problems in every country. Countries of Europe desire to export more than they import so as to build up gold reserves. Germany is especially anxious to do this because of the necessity of paying reparations. Each of the countries is attacking the problem on both the import and export side. They desire to increase exports and check imports. Since food is one of the important imports particularly in Germany, they desire to increase production.

America levies a tariff for income and to protect the home market from cheap foreign goods. Europe levies a tariff for the purpose of improving the balance of trade.

G. F. Warren

POTATO PRODUCTION AND PRICES

The condition of the potato crop improved during September, and the Government's forecast for October 1st was 423.5 million bushels, which is about the normal production per capita. A crop of this size should sell for about the usual or average price. Based on the October 1st estimate of the United States potato crop, $3.69 would be the most likely average price from October to June for "State Potatoes" per 180 pounds in the New York City wholesale market. October's price has averaged in the past about 10 per cent less than the season's price. The quotations for "State Potatoes" as given in the "Producer's Price Current" for October 4th and 11th averaged $2.15 per 180 pounds. This is about one-third less than the predicted price.

There have been twelve years in the past fifty-eight when the potato crop varied less than 5 per cent from normal. In only one of these years (1871) did potatoes sell in New York as low, compared with the price of other things, as they did in the first two weeks of October, 1924. In years when potatoes sold lower in October than the size of the potato crop warranted, the gain in price in the following months usually has been more than the average. The gain in December's price over October's averaged 45 cents per barrel for the six normal crop years having a low October price. In the six years when the October price was relatively high, the advance in price averaged only 9 cents per barrel.

Potato Production and Prices

	United States Potato Production in Millions of Bushels		Per cent of normal	New York City's Wholesale Price per 180 lbs.		
	Normal	Gov'ment's Estimate		Actual	Forecast	% Forecast above actual
1921	404.9	361.7	89.3	$3.47	$4.05	+17
1922	412.7	453.4	109.9	2.83	3.14	+11
1923	419.5	412.4	98.3	3.25	3.74	+15
1924	426.5	*423.5	99.3	....	3.69	....

* October 1, forecast.

Last year "State Potatoes" averaged $3.25 per 180 pounds in New York. Last year's crop was about 3 per cent below normal. The October 1st estimate for this year's crop is 1 per cent below normal. If potatoes this year sell for as much below the forecasted price as they did last year, the season's average price would be $3.14, which corresponds to an October price of $2.83. The potato crop is relatively the largest in the regions like Virginia and North Carolina from which the potatoes are marketed early in the season. Owing to the late season the shipments have been later this year and have, therefore, overlapped on the late potato crop. In September the shipments received from Long Island were larger than for any September in the past four years. It is possible that the rising prices for corn and wheat may cause potatoes to sell higher. The odds seem to be in favor of better potato prices in New York for the remaining fall and early winter.

G. P. SCOVILLE

APPLE PRODUCTION AND PRICES

The Government's forecast as of October 1st for the total United States apple crop was 175 million bushels. Last year's crop was estimated at 197 million bushels. Based on the increase in population in the United States and a decreased rate of production per capita, a crop of about 194 million bushels ought to sell for the usual or average price. A decrease of 10 per cent in the supply of apples has caused on the average an increase of 7 per cent in price. Assuming that this year's apple production is 10 per cent short and that the price level is at 150 when 1913 equals 100, the most likely average price for Baldwin apples from October to May in the New York wholesale market is $4.60 per barrel. The demand per capita for apples has probably been decreasing faster in recent years than formerly. The forecasted prices for the past eight years averaged 9 per cent too high. Therefore, the forecasted price of $4.60 might be reduced to $4.19. The "Producer's Price Current" up to the middle of October had not quoted Baldwin apples. The forecasted price for the average of sixteen varieties of apples from August to June is $4.62 per barrel, and if reduced by 9 per cent, $4.20 per barrel. Such of the sixteen varieties as were quoted in the "Producer's Price Current" this year average $4.82 for August, $3.92 for September and $3.87 per barrel for the first two weeks in October. So far this season apples have sold well considering the size of the crop.

G. P. Scoville

CABBAGE PRODUCTION AND PRICES

The September 1st estimate for the late cabbage crop in the nine northern states is 47,000 cars of 12.5 tons each compared with last year's final estimate of 41,000 cars. The average production for the past ten years is 35,000 cars. The increase in cabbage production in New York State this year is large, almost 50 per cent more than in 1923. Based on the Government's estimate of 586,200 tons, the most likely price this season from October to April for Danish cabbage in the New York City wholesale market is $20 per ton. Based on production, the forecasted price last year was $24 per ton. The actual season's average price was $28. The quotations in the "Producer's Price Current" on October 4th and 11th, 1924, for "State Domestic" bulk per ton average $14. Freight from central New York points to New York is $5.70 per ton. In years when the cabbage crop has been largest, there has been little or no increase in November and December prices. From January on, prices are also influenced by the new crop of southern cabbage.

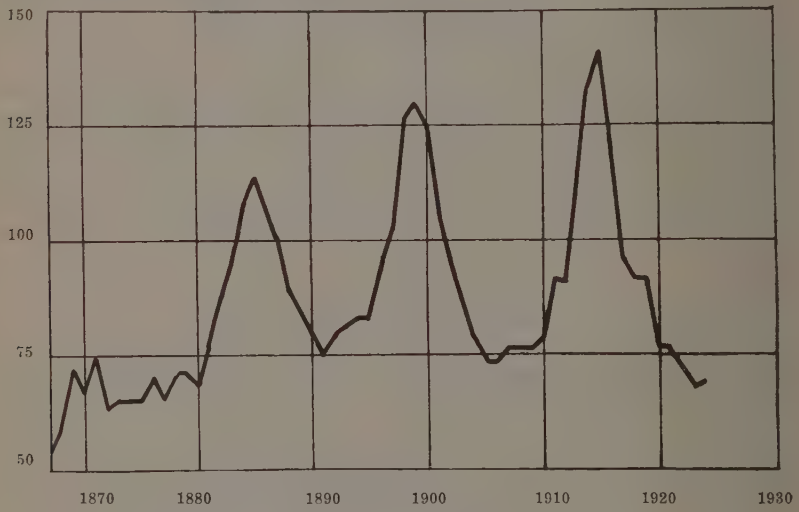
A ton of gluten feed contains 11.4 times as much digestible crude protein and 9.1 times as much net energy as a ton of cabbage. On the basis of energy or protein, cabbage has about one-tenth the value of gluten feed. However, cabbage has an additional value because of its succulence and other stimulating effects on milk production. Therefore, the feed value of a ton of cabbage is something more than one-tenth of the cost of gluten feed. In a year like this when grain is so high in price, it is more important than usual to make every effort to utilize feed by-products, such as cabbage refuse.

G. P. Scoville

PRICES OF BEEF CATTLE

Although prices rose during the war, they rose less rapidly than did prices of other things, so that the purchasing power declined. With deflation, prices of beef cattle fell much more rapidly than other products and the purchasing power declined with great rapidity and reached 68 in 1923.

There are distinct cycles of high and low prices of beef cattle. They were high compared with other commodities in 1885. They were again high in 1899 and 1915. The low points were 1891, 1906 and 1923. The periods of rising and falling prices varied from 6 to 9 years and averaged nearly 8 years. The period of rising purchasing power that ended in 1915 lasted nine years. The decline that then set in lasted eight years.



PURCHASING POWER OF BEEF CATTLE

In 1923 and 1924, beef cattle had a lower purchasing power than at any other time since the Civil War period. Beef cattle have distinct periods of high and low prices, each lasting about eight years

Presumably prices of beef cattle will rise compared with other things, for a period of about eight years. Probably they will reach average prices by about 1928, and be more profitable than the average from 1928 to 1936, with the peak about 1932. This means that if the general price level rises, beef cattle will rise more rapidly and if the general price level falls, beef cattle will fall less rapidly, or may rise.

The high prices resulted in an increase in the number of cattle other than dairy cows to 45 millions on January 1, 1919. The low purchasing power of beef during recent years is resulting in a decrease in numbers. On January 1, 1924, there were only 42 million head of cattle other than dairy cows in the United States.

G. F. WARREN and F. A. PEARSON

COSTS OF MARKETING POTATOES

Data on the cost of marketing potatoes at country shipping points were obtained from 24 shipping agencies for the 1921-22 season and 34 shipping agencies for the 1922-23 season. For the 1921-22 season, these data covered approximately 3½ million bushels of potatoes and for the 1922-23 season approximately 2¾ million bushels.

TABLE 1.—DISTRIBUTION OF WHOLESALE PRICES OF POTATOES

Per 600-bushel carload

(Prices are f. o. b. railroad yards at destination)

Item	Season 1921-22 Average of 5861 carloads Dollars per carload	Season 1921-22 Average of 5861 carloads Percent of wholesale price	Season 1922-23 Average of 4623 carloads Dollars per carload	Season 1922-23 Average of 4623 carloads Percent of wholesale price
Paid grower	$566.73	74.3	$322.73	61.9
Claims and allowances	11.05	1.5	7.29	1.4
Freight	107.13	14.1	98.89	19.0
Country shippers operating costs	86.57	11.4	93.67	18.0
Gross costs	771.48	101.2	522.58	100.2
Gross sales	762.53	100.0	521.57	100.0
Net loss	8.95	1.2	1.01	0.2

Potatoes were relatively more plentiful during the 1922-23 season than during the 1921-22 season. As a result the growers received on the average approximately $0.54 per bushel during the 1922-23 season as compared with approximately $0.94 per bushel during the 1921-22 season.

TABLE 2.—DISTRIBUTION OF COSTS OF HANDLING POTATOES AT COUNTRY SHIPPING POINTS

Per 600-bushel carload

(Costs are f. o. b. shipping points)

Item	Season 1921-22 Average of 5861 carloads Dollars per carload	Season 1921-22 Average of 5861 carloads Percent	Season 1922-23 Average of 4623 carloads Dollars per carload	Season 1922-23 Average of 4623 carloads Percent
Labor and management	$28.64	33.1	$28.00	29.9
Warehouse costs	6.22	7.2	6.42	6.[illegible]
Equipment costs	1.05	1.2	1.27	1.3
General office costs	8.35	9.7	10.27	11.0
Telephone and telegraph	3.07	3.5	2.72	2.9
Bank exchange	1.13	1.3	.84	0.9
Brokerage and commissions	8.93	10.3	11.40	12.2
Linings	2.02	2.3	2.06	2.2
Sacks, tags and twine	19.74	22.8	22.84	24.4
Miscellaneous costs	7.42	8.6	7.85	8.4
Total	$86.57	100.0	$93.67	100.0

Freight costs decreased about $8.00 per carload during the 1922-23 season, but because of the lower wholesale price, the percentage which freight charges took out of the total wholesale price was about 5 per cent higher than for the 1921-22 season. Operating costs were higher in 1922-23 than in the previous season. This was probably due to the smaller volume of potatoes handled per shipper during the 1922-23 season.

COMPARISONS

Season 1921-1922

The two items of paramount interest are the total operating costs and the amount paid the grower. Producer and consumer alike are interested in having potatoes handled as efficiently as possible at country shipping points. The averages indicate that the single-station dealers handled potatoes at the lowest average cost during the 1921-22 season, $72.63 per 600-bushel carload. Cooperatives ranked second with an average cost of $80.79 per carload, and the many-station dealers had the highest handling cost, $89.68 per carload (Table 3).

The grower, while interested in having his potatoes handled at a low cost, was primarily concerned with the price which he received for them. On the basis of returns to the grower, the many-station dealers held first rank, with an average price paid to the grower of $568.97 per 600-bushel carload, or $0.948 per bushel. The single-station dealers ranked second with $567.24 per carload or an average price to the grower of $0.945 per bushel. The cooperatives paid the grower an average of $552.06 per carload and had an average profit of $11.52 per carload which might have been paid out to the growers as patronage dividends. Excluding the possible dividends, several of which were paid, the average return to the grower by the cooperatives was approximately $0.92 per bushel; with the possible dividend added, the average price paid to the grower would have been approximately $0.94 per bushel.

In view of their operating costs and actual net sales, both the single-station dealers and the many-station dealers appear to have overpaid the grower by from 1.37 cents to 1.72 cents per bushel during the 1921-22 season. This figure may seem relatively insignificant when expressed on a bushel basis. Such an overpayment actually resulted in net losses to one many-station dealer of $13,639.70.

Since the principle of cooperative marketing is operation at cost, such associations can return to growers only the actual net returns received. Assuming equal efficiency, in a year when dealers generally lost money it would be expected that cooperatives would return lower average prices to growers.

The many-station dealers received the highest returns per carload, $645.35, as compared with $644.27 for the cooperatives and $631.62 for the single-station dealers. The single-station dealers actually sold their potatoes for the highest average price, but were obliged to pay higher freight costs than the other two types of agencies and actually netted less than the many-station dealers.

If the amount of claims and allowances per carload may be taken as a criterion, the cooperatives loaded their cars most carefully. The cooperatives had claims for allowances of $9.55 per carload, the single-station dealers $11.06, and the many-station dealers, $11.30.

TABLE 3.—GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 24 SHIPPING AGENCIES, SEASON 1921-22

Item	Average					
	7 farmers' cooperative associations[1]	8 single-station dealers[2]	9 many-station dealers[3]	24 shipping agencies	9 northern New York agencies	15 western New York agencies
Labor and management	$27.92	$26.75	$29.05	$28.64	$27.22	$28.86
Warehouse costs	6.07	4.28	6.55	6.22	4.94	6.43
Equipment costs	1.09	.68	1.10	1.05	.71	1.10
General office costs	7.26	8.68	8.47	8.35	10.19	8.06
Telephone and telegraph	1.36	1.89	3.52	3.07	1.94	3.25
Bank exchange	1.11	.79	1.19	1.13	.79	1.16
Brokerage and commission	11.46	16.30	7.37	8.93	15.36	7.91
Linings	1.91	2.10	2.03	2.02	2.22	1.99
Sacks, tags and twine	19.37	3.65	22.33	19.74	4.57	22.15
Miscellaneous	3.24	7.51	8.07	7.42	7.27	7.44
Total operating costs	80.79	72.63	89.68	86.57	75.21	88.37
Paid grower	552.06	567.24	568.97	566.73	567.96	567.17
Total cost of potatoes to shipper	632.85	639.87	658.65	653.30	639.17	655.54
Gross sales	747.93	767.52	764.07	762.53	760.76	762.82
Claims and allowances	9.55	11.06	11.30	11.05	10.21	11.19
Freight	94.01	124.84	106.42	107.13	124.37	104.39
Net sales	644.37	631.62	646.35	644.35	626.18	647.24
Net profit	11.52	....	....	....	....	....
Net loss	....	8.25	12.30	8.95	12.99	8.30

[1] A farmers' cooperative association is one owned and operated by farmer-member producers of potatoes.

[2] A single-station dealer is one who buys and ships potatoes on his own account at one country shipping point only.

[3] A many-station dealer is one who buys and ships potatoes at more than one shipping station and whose main office is in the potato-producing area.

Season 1922-1923

The averages indicate that the many-station dealers handled potatoes at the lowest cost during the 1922-23 season, $90.90 per carload. The single-station dealers had the next lowest cost, $99.84 per carload, and the cooperatives had the highest cost, $100.53 per carload. The single-station dealers and the cooperatives were about equally efficient in costs since the cost varied only $0.69 per carload. The many-station dealers were, on the average, about 10 per cent more efficient on costs during the 1922-23 season than the other two types of agencies (Table 4).

The situation was different, however, when viewed from the point of returns to the grower. The single-station dealers, on the average, paid growers $337.28 per carload or about $0.562 per bushel; the many-station dealers paid the next highest return, $321.44 per carload, or $0.535 per bushel; and the cooperatives paid the growers the least, $317.01 per carload, or $0.528 per bushel.

The single-station dealers received the highest price per carload, $447.79, even after paying $110.45 freight. The cooperatives had the next highest net sales, $415.55 per carload, and the many-station dealers were the lowest with $409.60. The cooperatives and the many-station dealers apparently overpaid the growers since they experienced losses, respectively, of $1.99 and $2.74 per carload on the average.

TABLE 4.—GROUP OPERATING COSTS AND RETURNS PER 600-BUSHEL CARLOAD, 34 SHIPPING AGENCIES, SEASON 1922-1923

Item	Average of					
	12 farmers' cooperative associations	10 single-station dealers	12 many-station dealers	34 western and northern New York shipping agencies	25 western New York shipping agencies	9 northern New York shipping agencies
Labor and management	$26.79	$29.50	$27.99	$28.00	$27.13	$42.81
Warehouse costs	7.59	5.71	6.28	6.42	6.42	6.42
Equipment costs	1.82	.86	1.22	1.27	1.37	.74
General office costs	10.83	12.06	9.81	10.27	9.56	14.28
Telephone and telegraph	1.27	1.91	3.22	2.72	2.90	1.69
Bank exchange	.71	1.28	.80	.84	.71	1.59
Brokerage and commission	15.94	24.58	7.90	11.40	8.18	29.62
Linings	1.94	2.80	1.95	2.06	1.93	2.76
Sacks, tags and twine	26.15	11.47	24.13	22.84	25.50	7.76
Miscellaneous	7.49	9.67	7.60	7.85	7.06	12.30
Total operating costs	100.53	99.84	90.90	93.67	90.79	109.98
Paid grower	317.01	337.28	321.44	322.73	315.16	365.56
Total cost of potatoes to shipper	417.54	437.12	412.34	416.41	405.95	475.54
Gross sales	546.66	564.44	512.50	521.58	508.04	598.16
Claims and allowances	9.59	6.20	6.94	7.29	7.67	5.15
Freight	101.52	110.45	96.14	98.89	96.62	111.72
Net sales	415.55	447.79	409.60	415.40	403.75	480.29
Net profit	....	10.67	....	....	....	5.75
Net loss	1.99	....	2.74	1.01	2.20	....

If the amount of claims and allowances per carload may be taken as a criterion, the single-station dealers loaded their cars most carefully during the 1922-23 season. The single-station dealers held claims for allowances down to $6.20 per carload, as compared with $6.94 per carload on the part of the many-station dealers and $9.59 per carload on the part of the cooperatives.

CONCLUSIONS

Comparatively little if anything can be accomplished by the individual shipper or organization in bringing about reductions in freight rates. Increased returns to the grower will probably have to come about in one or more of three ways:

Through increasing the gross sales price in the city.
Through decreasing operating costs at the country shipping point.
Through decreasing loss from avoidable claims for allowances and deductions.

Something may possibly be done within rather narrow limits in the way of increasing sales prices in the terminal markets through better knowledge of the trade, advertising and in other ways. However, the keen competition between producing areas will not ordinarily permit of great variation in this respect.

The most promising means for increasing the gross sales price for upstate New York potatoes probably lies in the standardization of varieties. This is distinctly a growers' problem. One of the shipping agencies reported that the potatoes shipped during the 1921-22 season were about as follows:

30 per cent blue sprouts.
30 per cent white sprouts.
30 per cent russets.
10 per cent Spaulding Rose.

All of these, except the Spaulding Rose, a red variety, were mixed together and some of the red potatoes were occasionally mixed in.

At least two of the areas with which upstate New York competes, Maine and Long Island, produce a highly standardized product. There is often a marked differential between the price paid per bushel for Maine or Long Island potatoes and that paid for upstate New York potatoes in the New York City market. Probably not all of this differential may be ascribed to standardization of variety. The expressed opinion of the trade, however, leaves little doubt that lack of standardization is a heavy handicap encountered by upstate New York potatoes.

A number of dealers were emphatic in stating that the trade discriminated against dark-skinned varieties of potatoes such as russets. The objections to the russet type of potato were that they did not sell well in the table-stock market and were difficult to grade.

Operating costs per carload of 600 bushels varied from $51.76 to $156.32. This may indicate that some economies can be brought about at the country shipping point.

The average claims and allowances for the various agencies ranged from $0.29 to $36.35 per carload. Some of these claims may be unavoidable, especially those due to a severe drop in temperature or to a sharp decline in the market price. Some of the claims are avoidable, such as those due to careless grading, indifferent lining of cars, insufficient heating of cars, and selling to unknown or unreliable firms.

It would be difficult to state which of the three types of agencies, cooperatives, single-station dealers, many-station dealers, performed the necessary services incident to receiving and shipping potatoes most efficiently and economically. Each of the three had outstanding individual representatives who operated very efficiently; each likewise had inefficient representatives. The type of agency is probably not the most important factor. The primary concern is that the agency, whatever type it be, shall follow good business principles and be efficiently managed. This seems as likely to occur in one type of agency as in another. It is probable that these three types of agencies supplement one another very well and provide the kind of competition necessary to call forth the best efforts for efficiency and economy.

Accounting is one of the weak features of the potato shipping business. Few of the agencies studied were an exception to this rule. Many do make adequate allowances for depreciation of warehouses and equipment. Many of them go through the form of collecting what is called a reserve fund and then use the fund for current expenses. It is particularly desirable that adequate reserves for depreciation and possible losses be built up to meet unfavorable situations. It is only fair to state that many of the shipping agencies realize the weakness of their accounting systems and invite suggestions for improvement. Several have spent large sums of money for accounting systems which have not proven satisfactory. Dealers and cooperatives alike are often asked to extend loans to growers on potatoes as yet unharvested or stored in the growers' cellars. Growers who ask loans of shipping agencies should recognize the fact that the shipping agency is not a bank and is not adapted to carrying on the credit function. The place to borrow money is from a bank and not from a cooperative association or private dealer. The business of all shipping agencies is to handle and ship potatoes. The business of a bank is to sell credit. It is as logical to ask a bank to handle and ship potatoes as to ask a cooperative or a private dealer to extend credit. If cooperatives or dealers are obliged to extend credit they frequently have to draw the necessary funds from a bank at the current rate of interest. Since there is always some risk in loaning money, the cooperatives or dealers, to be safe, have to charge more than the current rate of interest to avoid loss.

Occasionally a business is started without any knowledge of the number of carloads shipped annually from the local station, or of the number which the shipper can reasonably hope to handle. No cooperative in New York State has as yet handled all of the potatoes shipped from any station. The same is probably true of dealers. The manager of a prominent cooperative organization gives the sound advice that it is better to rent for awhile until warehouse needs are better known. At any rate, it may be a good policy to ascertain the number of carloads of potatoes shipped from the local station over a period of years, and then estimate conservatively the number of carloads the shipping agency can hope to handle, before purchasing or building a warehouse. If less than 30 to 50 carloads are to be handled annually, it is doubtful whether a warehouse can be justified. In such a situation, car-door loading will probably work out most advantageously.

Only a small number of the shipping agencies use their warehouses throughout the year. During the winter, potatoes are hauled at very irregular intervals. There is much idle time, winter and summer, for labor and some idle space in warehouses. Some of the shipping agencies are now handling feed, fertilizer, lime, seed, and a variety of the agricultural products of their region; others are carrying on a very restricted business with only a few commodities. It is probable that the handling of some of the above named farm supplies as well as most of the farm products raised in the region, which may be shipped in carloads would aid in reducing overhead expenses. Several shipping agencies are interested in such a program, but are apprehensive of becoming involved in the extension of a great deal of credit to the farmers. It is possible that the use of trade acceptances may prove helpful in solving the problem.

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FARM ECONOMICS

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BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	146	86	118	197
1923	157	161	163	155	95	126	214
May, 1923	159	166	172	157	104	145	218
June	156	162	164	153	100	137	219
July	154	157	154	143	94	128	217
August	153	157	151	145	86	118	214
September	157	159	153	147	85	114	216
October	156	159	150	143	85	106	218
November	155	155	149	151	87	97	218
December	154	154	153	157	92	93	220
Jan., 1924	154	153	153	163	100	92	219
February	155	156	153	165	102	91	218
March	153	152	151	162	95	91	222
April	151	149	144	156	94	84	218
May	150	148	141	154	88	76	217
June	148	146	141	156	83	70	214
July	150	147	137	164	70	69	214
August	153	151	144	170	58	72	216
September	152	152	145	170	53	79	221
October	155	155	143	169	53	80	217
November	156	157	146	178	58	90	218
December	....	....	152	....	....	....	....
Dec. 1 to 15	....	157	....	187	64	....	....

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[1] Copyrighted by Irving Fisher. [2] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York Herald-Tribune. The data as published, are converted to the 1910-14 base by multiplying by 2.05. [3] Corresponding months 1910-1914 = 100. [4] June, 1914 = 100.

PRICES OF FARM PRODUCTS AND FOOD, 1910-1914 = 100

Year	Farm Prices		Prices of Food in the United States		
	New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	97	99	101	99	103
1914	103	101	105	101	105
1915	100	101	106	104	104
1916	116	119	120	120	118
1917	170	180	180	165	151
1918	186	206	197	186	173
1919	206	215	210	205	192
1920	217	214	209	218	209
1921	144	119	128	143	158
1922	134	124	122	137	146
1923	142	137	122	143	151
August, 1922	125	125	120	137	143
September	124	119	113	137	144
October	122	122	117	139	147
November	131	129	120	142	149
December	136	134	124	143	152
January, 1923	127	137	126	140	148
February	132	136	123	140	146
March	133	138	123	142	146
April	143	139	122	143	147
May	148	138	124	143	147
June	163	134	121	141	148
July	157	134	120	140	152
August	149	129	118	141	151
September	151	133	122	146	154
October	147	138	123	147	155
November	143	141	122	147	156
December	135	143	123	146	155
January, 1924	123	143	121	142	154
February	123	142	122	142	152
March	125	136	119	140	148
April	130	135	118	136	145
May	129	135	118	136	145
June	135	134	119	135	147
July	129	138	124	137	148
August	133	146	132	143	149
September	129	137	129	146	151
October	127	145	137	150	153
November	134	145	138	152	155

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[1] From United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

AVERAGES FOR 43 MONTHS

Prices paid to farmers for food	123
Prices of food at wholesale	140
Prices of food at retail	150

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Corn, bu.	September	1.097	1.29	150	159
	October	1.089	1.33	155	168
	November	.996	1.28	157	166
Oats, bu.	September	.471	.60	120	122
	October	.489	.61	125	130
	November	.474	.59	123	128
Wheat, bu.	September	1.142	1.30	131	135
	October	1.297	1.37	148	141
	November	1.336	1.48	152	153
Barley, bu.	September	.756	.90	128	118
	October	.814	.86	135	115
	November	.797	.89	133	119
Rye, bu.	September	.801	.88	111	111
	October	1.051	1.00	143	127
	November	1.086	1.12	148	140
Buckwheat, bu.	September	1.188	1.15	159	151
	October	1.116	1.00	154	135
	November	1.068	1.04	149	144
Flaxseed, bu.	September	2.012	....	118	....
	October	2.108	....	126	....
	November	2.227	....	137	....
Beans, bu.	September	3.72	4.00	162	162
	October	3.72	3.90	165	160
	November	3.81	3.80	170	158
Cotton, lb.	September	.222	....	182	....
	October	.231	....	191	....
	November	.226	....	187	....
Hay, ton	September	12.68	14.80	109	98
	October	12.64	14.30	109	94
	November	12.91	13.60	111	91
Onions, bu.	September	1.62	1.34	162	165
	October	1.56	1.21	162	155
	November	1.53	1.13	159	147
Potatoes, bu.	September	.810	.85	101	96
	October	.688	.68	99	99
	November	.640	.53	107	95
Sweet potatoes, bu.	September	1.570	....	168	....
	October	1.485	....	175	....
	November	1.322	....	173	....
Apples, bu.	September	1.100	.95	157	153
	October	1.160	1.00	168	164
	November	1.200	1.09	166	168
Horses, head	September	78.00	118.00	56	67
	October	77.00	116.00	56	66
	November	76.00	112.00	55	64

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	September	.198	.23	166	147
	October	.194	.24	164	155
	November	.185	.22	162	152
Eggs, doz.	September	.318	.41	165	152
	October	.382	.50	171	167
	November	.458	.62	180	177
Butter, lb.	September	.382	.44	155	147
	October	.388	.45	150	145
	November	.393	.44	147	138
Milk, 3.7%	September	....	2.095	....	132
Pool price (Utica)	October	....	2.11	....	118
	November	....	2.51	....	134
Milch cows, head	September	55.54	68.00	112	119
	October	54.30	70.00	109	125
	November	55.05	68.00	110	121
Beef cattle, cwt.	September	5.53	5.70	103	101
	October	5.52	5.70	104	100
	November	5.43	5.20	104	95
Veal calves, cwt.	September	8.09	10.50	115	120
	October	8.22	11.00	117	124
	November	7.89	10.60	114	120
Sheep, cwt.	September	6.30	5.70	144	140
	October	6.32	5.70	147	140
	November	6.39	5.30	150	135
Lambs, cwt.	September	10.18	11.40	181	185
	October	10.35	11.20	188	187
	November	10.55	11.10	193	184
Wool, lb.	September	.355	.42	205	200
	October	.373	.41	218	195
	November	.401	.41	233	195
Hogs, cwt.	September	8.50	8.80	112	111
	October	9.45	9.60	128	121
	November	8.62	9.50	124	128

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	September	35.60	127
	October	35.40	129
	November	34.80	129
Cottonseed meal, ton	September	55.10	161
	October	56.00	163
	November	54.00	161

GENERAL BUSINESS

The most striking feature of the business situation is the phenomenal rise in the prices of industrial stocks. The writers have calculated index numbers for industrial stocks for the period 1880 to date. The highest previous index was 183 in October, 1919. The index for the first 15 days of December was 187. This is a rise of 9 points over the November average and 33 points over the index number for May. The violent swings in the stock market are shown by the index numbers of 183 in October, 1919, 107 in August, 1921, and 187 for the first half of December, 1924. The writing up of prices of farm property in 1919 and 1920 and subsequent declines have been much discussed. Violent as were the swings in prices of farm land, they were not equal to the swings in the prices of industrial stocks. Farmers invest in farm property. City persons invest in industrial stocks. Few persons now care to invest in farm property, but apparently great numbers of persons fear that there will not be shares enough to go around.

Perhaps an even more important feature of the business situation is the rise in interest rates. For September and October interest rates on 4-6 months' paper were only 53 per cent of pre-war rates. For the first half of December, rates were 11 points higher. Increased prices of stocks, increased prices of commodities, and increased business activity are creating a greater demand for money.

Prices of basic commodities as indicated by the Harvard index, are 15 points above July. Prices of large numbers of commodities, as indicated by Fisher's index, are 11 points above prices in June. Prices are now two points below the level of December, 1922. The rate of rise since May has been about the same as in 1922. Present indications suggest that the general price level is likely to go higher than in 1923. The rise in prices compared with last year is due to higher prices for farm products, but when October and November of this year are compared, a rise is shown in every group of commodities. The rise in the prices of farm products is less than for the average for all products.

Apparently there is no reason for changing the previous forecast that for at least the first half of 1925 business is likely to be active and prices rising.

PRICES PAID TO FARMERS IN THE UNITED STATES

Prices paid to farmers for food products have as a whole risen considerably. Index numbers of prices for 43 months have averaged 123, but in November, 1924, the index was 138. Cotton and some of the other non-food products have declined in price so that the index for all products is only 4 points above last year.

Index numbers of prices for the following commodities rose in November: wheat, rye, corn, flaxseed, hay, beans, potatoes, eggs, milk cows, sheep, lambs and wool.

Index numbers for the following commodities fell: oats, barley, buckwheat, cotton, sweet potatoes, horses, apples, chickens, butter, veal calves and hogs. The index number for beef cattle was stationary.

Cotton is 87 percent above its pre-war price. A pound of cotton therefore exchanges for a fifth more than the pre-war quantity of general commodities at wholesale prices.

Wheat is 52 percent above pre-war and is therefore close to its pre-war relationship with all commodities.

Butter in November was 47 percent above the pre-war price or 9 points below the general price level.

Hogs were 24 percent above pre-war prices and beef cattle four percent above.

PRICES PAID TO FARMERS IN NEW YORK

The average index of prices of farm products in New York in November was 34 percent above pre-war, which is higher than October, but 9 points below November of last year. The pool price for milk in November was 34 percent above pre-war. This is a decided rise from the low point of 118 in October. Cotton-seed meal was 61 percent above pre-war and bran 29 percent above. Potatoes are below pre-war prices. In many up-state counties they have been selling as low as 25 to 35 cents per bushel. Cattle sold for beef are below pre-war prices. Apples are generally bringing good prices.

G. F. WARREN and F. A. PEARSON

RETAIL PRICES OF MILK IN NEW YORK CITY AND PRICES PAID TO FARMERS FOR MILK

Milk is sold in pints and quarts in bottles delivered to the homes; is sold at retail stores as dip milk; is sold in quantity direct to hotels and restaurants, and reaches the final purchaser in other forms. There is no single figure which represents the average prices which consumers pay for milk.

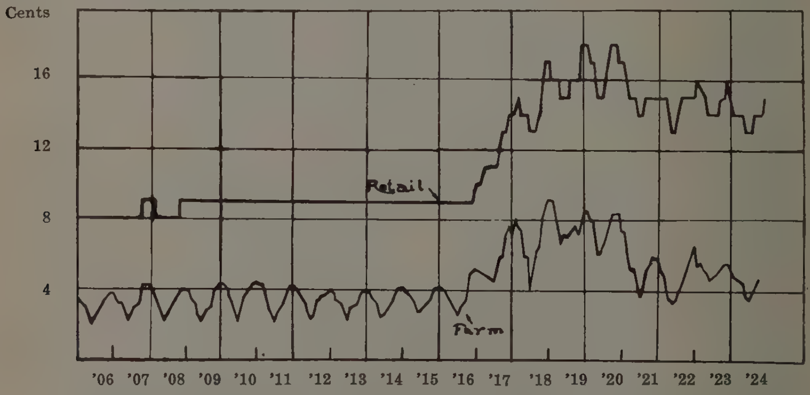

Fig. 1—Prices in cents per quart paid to farmers for milk and prices per quart bottle for milk at retail in New York City, for 19 years

Milk sold at retail in quart bottles was raised from 8 to 9 cents in November, 1908. It remained at this figure through October, 1916. For eight years the price to the consumer for quarts never changed. It went on in summer and winter, when feed was high and when it was cheap without any fluctuations. In the seven years from 1908 to 1915 the United States Bureau of Labor Index Numbers of all commodities rose 12 percent. It rose even more rapidly in 1916, so that the total rise from October, 1908, to October, 1916, was 53 percent, but milk went on oblivious of changed economic conditions.

The price paid to farmers for milk varied with the time of the year, but was practically the same in one year as another. The inflexibility of milk prices threw the burden of adjustment on the farmer. If feed, or labor, or taxes changed, the farmer had to take the consequences, for the consumer's price changed not at all, and the price to the farmer changed but little. The common practice in those days was to announce the price of milk six months in advance. Occasionally drouth or excessive feed prices, resulted in a slight price adjustment before the period was over, but usually no changes were made. The dealer had a surplus if the pastures were good, the farmer suffered if pastures were poor, or if feed was high.

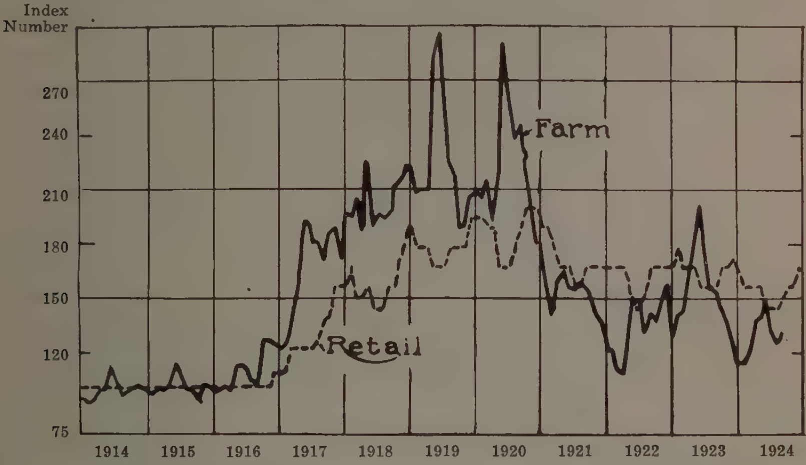

Fig. 2—Index numbers of prices paid to farmers for milk and prices of milk at retail in New York City, 1910-14 = 100

Many years of inflexible prices led to so much dissatisfaction that in the fall of 1916, farmers struck. Since that time, prices of milk to the consumer and to the farmer have been flexible as indicated in Figure 1. It is to be hoped that no such inflexible price situation will again develop. The price of milk should fluctuate with the quantity of it and the demand for it.

Index numbers of farm and retail prices when 1910-1914 is considered as 100 are given in Figure 2. For the four years, 1917 to 1920, the index numbers of the farm prices of milk were higher than retail prices. Since that time index numbers of prices at retail have averaged higher than farm prices. For all food products as shown on page 198, prices at retail for 43 months were 50 per cent above pre-war. Prices paid to farmers were 23 per cent above pre-war. Prices of milk in quarts retailed in New York averaged 61 per cent and prices paid to farmers 42 per cent above pre-war. Milk prices have followed the law of prices; that is, when prices are rising, prices to producers rise more rapidly than prices at retail. When prices are falling, prices to producers fall more rapidly than do prices at retail. In each case the lag in wage adjustment is the cause.

NEW YORK FARM PRICES OF MILK AND BUTTER

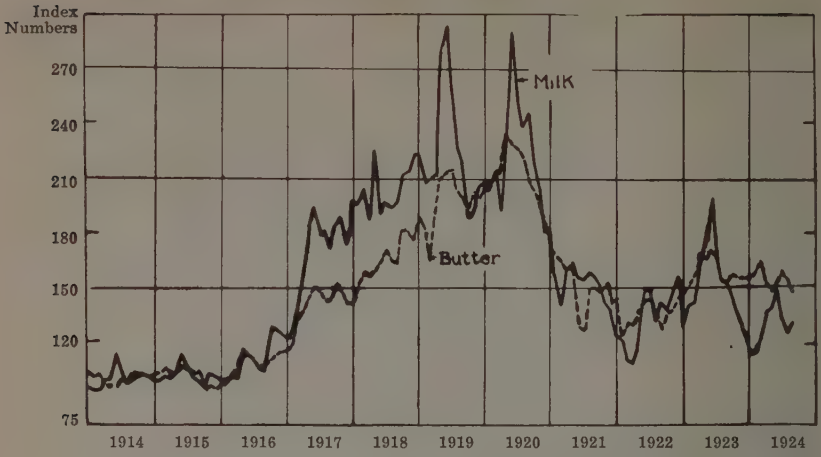

Fig. 3—Index numbers of prices paid to farmers for milk and prices paid to farmers for butter in New York State, 1910-14 = 100

For four years, 1917 to 1920, prices paid to farmers for milk were high relative to prices paid for butter. Since 1920, the average pool price of milk has been 60 percent above pre-war prices; butter as sold by New York farmers has averaged 62 per cent above pre-war. This relationship follows the usual one when inflation and deflation occur. The demand for butter is more flexible than the demand for milk. When inflation occurs, wages lag and the demand for butter is less. When deflation occurs, wages remain high and the demand for butter is strong.

EARNINGS OF FACTORY WORKERS AND THE RETAIL PRICE OF MILK

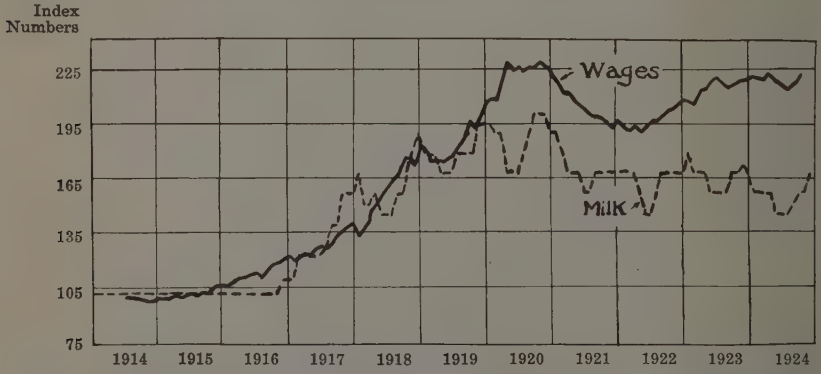

Fig. 4—Index numbers of prices of milk in quart bottles at retail in New York City and earnings of factory workers in New York

Index numbers of earnings of factory workers as shown in Figure 4, rose about the same as the price of milk until 1920. Since that time, retail prices of milk have been low relative to wages. For the year 1923, the earnings of factory workers averaged 114 per cent above pre-war and the price of milk at retail in quart bottles averaged 65 percent above pre-war.

G. F. Warren and F. A. Pearson

CONSUMPTION OF MILK IN CHICAGO AS AFFECTED BY PRICE

Theoretically and actually, an increase in the retail price of milk will decrease consumption, while lowering the price will increase consumption. The extent to which price affects demand, however, is frequently over-estimated. The reason for this is directly traceable to the effect of changes in the price of milk which occurred in many of our cities in 1916 and 1917 when the general price level was rising. For eight years previous to 1916, the retail price of milk in New York City had been held constant at 9 cents per quart. Similarly, the price in Chicago had been maintained at 8 cents for about seven years. Naturally, increases in each of these cities met with strong objections from the consumers. The effect upon consumption was undoubtedly much greater than would have been the case had consumers been accustomed to fluctuations in the price of milk such as occur constantly in commodities like meat and sugar. In Chicago a one-cent increase on August 1, 1916, was followed by a similar increase eight months later. Milk was then retailed at ten cents per quart until October 1, 1917. At that time a large increase in the price paid to the producers necessitated raising the retail price to 13 cents. Such a large increase cut consumption to a point far below normal. The October sales of milk by three large companies doing over one-half of the business in Chicago, were 15 per cent below the average of the July, August, and September sales. The cut in consumption was even greater than is indicated by this figure, because the October demand is normally about 5 per cent higher than the average of these three months.

This decrease is frequently referred to when the question of price and demand is discussed. It should be noted, however, that this change in price was somewhat abnormal. It occurred before consumers had become accustomed to the idea of changing retail milk prices. In the magnitude of the change as was also very unusual, at no other time has Chicago seen a change of 3 cents per quart in the retail milk price.

In succeeding years there were numerous other changes in retail prices. A study of purchases of milk in this city during the three-year period, 1920 to 1922, shows an effect on demand entirely different from that observed in October, 1917.

Data were obtained on the daily consumption of over 200,000 families during this period. The weekly retail purchases of milk were corrected for seasonal variation and secular (long-time) trend. The corrected data represent the sales that might be expected, had there been no change in the retail price. The actual sales of milk for three weeks after each price change were compared with the "expected" sales. The changes which may be attributed to the effect of price are expressed as percentages of the expected sales. Table 1 shows the effect on the sale of quarts of milk; Table 2, the effect on the sale of pints; and Table 3, the net effect on quarts and pints combined. An analysis of these tables indicates the following:

1. An increase in price tends to cut consumption slightly while a decrease in price tends to stimulate consumption.
2. Consumption is depressed by an increase in price more than it is stimulated by a decrease in price.
3. Sales of quarts of milk seem to be less influenced by price changes than sales of pints.

TABLE I.—CHANGES IN THE SALES OF QUARTS OF MILK DUE TO CHANGES IN THE RETAIL PRICES OF QUARTS OR PINTS

Date of price change	Retail price of qts.	Retail price of pts.	Ratio of price of pts. to price of qts.	*Change from the average sales of the three weeks preceding the price change			
				1st week following price change	2nd week following price change	3rd week following price change	Average of three weeks following price change
Previous to	cts.	cts.	per cent	per cent	per cent	per cent	per cent
March 1, 1920	15	9	60.0				
Mch. 1, 1920	14	9	64.3	+ 1.3	+ 1.2	+ 1.2	+ 1.2
July 1, 1920	15	9	60.0	— 2.1	— 1.3	— 1.3	— 1.6
Aug. 5, 1920	16	10	62.5	+ .5	— .1	— .5	0
Nov. 1, 1920	15	9	60.0	— .1	0	— .2	— .1
Dec. 1, 1920	14	9	64.3	+ 1.3	+ .3	+ .3	+ .6
Feb. 1, 1921	14	8	57.1	+ .3	+ .1	+ .3	+ .2
Sept. 1, 1921	12	7	58.3	+ 1.2	+ 2.6	+ 1.3	+ 1.7
Dec. 1, 1922	12	8	66.7	+ .1	+ 2.0	+ 2.0	+ 1.4

*Expressed in percentages of the expected sales.

TABLE II.—CHANGES IN THE SALES OF PINTS OF MILK DUE TO CHANGES IN THE RETAIL PRICE OF QUARTS OR PINTS

Date of price change	Retail price of qts.	Retail price of pts.	Ratio of price of pts. to price of qts.	*Change from the average sales of the three weeks preceding the price change			
				1st week following price change	2nd week following price change	3rd week following price change	Average of three weeks following price change
Previous to	cts.	cts.	per cent	per cent	per cent	per cent	per cent
March 1, 1920	15	9	60.0				
Mch. 1, 1920	14	9	64.3	— 9.5	—12.6	—12.9	—11.7
July 1, 1920	15	9	60.0	— 2.6	— 1.7	— 1.4	— 1.9
Aug. 5, 1920	16	10	62.5	— 7.5	—10.4	—11.7	— 9.9
Nov. 1, 1920	15	9	60.0	— 1.3	+ .1	+ 1.4	+ .1
Dec. 1, 1920	14	9	64.3	+ .8	— 1.2	— 1.4	— .6
Feb. 1, 1921	14	8	57.1	— 1.0	— 1.3	— .9	— 1.1
Sept. 1, 1921	12	7	58.3	+ 2.1	+ 2.7	+ 2.3	+ 2.4
Dec. 1, 1922	12	8	66.7	—18.2	—25.5	—28.0	—23.9

*Expressed in percentages of the expected sales.

TABLE 3.—CHANGES IN THE SALES OF QUARTS AND PINTS OF MILK COMBINED DUE TO CHANGES IN THE RETAIL PRICE OF EITHER

Date of price change	Retail price of qts.	Retail price of pts.	Ratio of price of pts. to price of qts.	*Change from the average sales of the three weeks preceding the price change			
				1st week following price change	2nd week following price change	3rd week following price change	Average of three weeks following price change
Previous to	cts.	cts.	per cent	per cent	per cent	per cent	per cent
March 1, 1920	15	9	60.0				
Mch. 1, 1920	14	9	64.3	0	— .5	— .5	— .3
July 1, 1920	15	9	60.0	— 2.2	— 1.4	— 1.3	— 1.6
Aug. 5, 1920	16	10	62.5	— .6	— 1.5	— 2.0	— 1.4
Nov. 1, 1920	15	9	60.0	— .3	0	— .1	— .1
Dec. 1, 1920	14	9	64.3	+ 1.3	+ .1	+ .1	+ .5
Feb. 1, 1921	14	8	57.1	+ .2	+ .1	+ .3	+ .2
Sept. 1, 1921	12	7	58.3	+ 1.4	+ 2.6	+ 1.5	+ 1.8
Dec. 1, 1922	12	8	66.7	— 2.6	— 1.9	— 2.2	— 2.2

*Expressed in percentages of the expected sales.

4. A change in the price of one unit without a corresponding change in the price of the other causes a shift in the proportionate sales of the two units.

5. The net change in consumption, when both pints and quarts of milk are combined, is surprisingly small considering the percentage change in price which a change of one cent occasions.

It should, perhaps, be noted that the period under consideration was one of violent price fluctuations for nearly all commodities, and the consumption of milk may have been less affected by price changes than it would have been in more stable times. However, for this period, these data indicate that on the average a change of one cent per quart changed the consumption of milk less than one per cent, or about the same change as is occasioned by a variation in temperature of 10 degrees from one summer day to the next.

It may be concluded, therefore, that the demand for milk is very inelastic. There is little doubt that city consumers would pay relatively high prices for milk rather than do without it. However, keen competition between dealers in the sale of milk and between dairymen in its production, prevents either group from taking advantage of the consumers.

H. A. Ross

PURCHASING POWER OF BEEF CATTLE AND RECEIPTS OF RANGE CATTLE AT CHICAGO

In Farm Economics No. 19, a discussion was given on the price of beef cattle for 58 years. Figure 5 shows the relation of changing purchasing power to the receipts of cattle at Chicago. Receipts have been more erratic than the farm price of cattle. In general, the cycles of high receipts have occurred during periods of low prices.

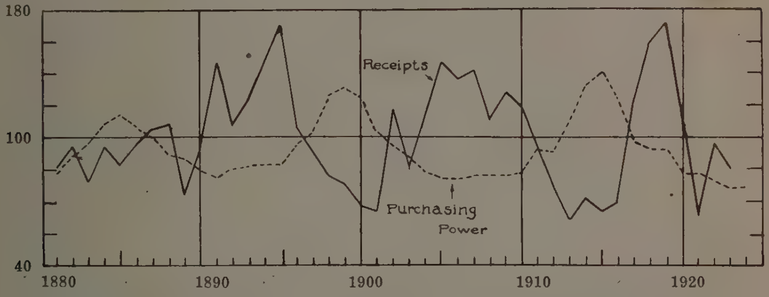

Fig. 5—Index Numbers of the Purchasing Power of Beef Cattle and Receipts of Range Cattle at Chicago

Altho few beef cattle are raised in New York, the price of beef cattle is of great importance to the dairy industry. When beef is high, farmers are able to sell their dairy cows to good advantage and are more likely to sell the inferior ones than is the case when beef is cheap. The beef value of dairy cows fluctuates more violently than does the value of beef cattle. When beef is plentiful there is little demand for beef from dairy animals. When beef is scarce these animals sell readily. At the present time the farm price of beef cattle is above pre-war, but dairy cows when sold bring less than pre-war prices. The dairy industry would be in a better condition at the present time if beef were not so unusually cheap.

G. F. Warren and F. A. Pearson

NEW YORK STATE FARM COST ACCOUNTING RESULTS*

RESULTS EXPRESSED AS LABOR INCOME

A summary of the results from the cooperative work in farm cost accounting between New York State farmers, the Bureau of Agricultural Economics, Washington, D. C., and the Department of Agricultural Economics and Farm Management at Cornell University, is given in Table 1 in terms of *labor income*. Labor income is what the farmer received for his year's work above all farm expenses, including interest on the capital invested, and in addition to the use of his house and farm products. Labor income is directly comparable with wages of married hired men who receive the use of a house and farm products. The average labor income of all cooperators for each year, 1914 to 1923 inclusive, is given in column 3 of Table 1. The index numbers of these annual labor incomes, when the labor income for 1914 equals 100, are shown in column 4. This column brings out the rapidly increasing dollar income through 1919 and the precipitous fall in 1920. In 1921 the farms lacked $31.98 of making any returns to their operators for their labor. Conditions improved appreciably in 1922, but this improvement was not continued in 1923. The true value of the income one receives is not measured by the number of dollars, but by the quantities of products that one can buy with the dollars. The labor incomes of these farmers have therefore been reduced to index numbers of purchasing power by applying the index numbers of all commodities for the corresponding years. The results are shown in column 5. Although the labor incomes of these farmers did increase faster than the price of all commodities during the period of inflation ending with 1919, this increase was at a much more gradual rate than a comparison of the dollar incomes would indicate. The highest purchasing power attained by the incomes of these farmers was in 1917 when it was 139 points above the general price level of all commodities, whereas the highest labor incomes measured in dollars were received in 1919. On the other hand, these farmers have suffered much more severely during the deflation period beginning in 1920 than their lower labor incomes would indicate. For example, in 1923, when their labor incomes were 55 points below the 1914 level, the purchasing power of these labor incomes was 71 points below 1914.

TABLE 1.—AVERAGE LABOR INCOMES OF SOME NEW YORK STATE FARMERS (1914 TO 1923) AND THE PURCHASING POWER OF THESE LABOR INCOMES.—1914 = 100

Year	Number of Farms	Average Labor Income per Farm	Index Numbers	Purchasing Power
1914	18	$453.02	100	100
1915	46	610.43	135	131
1916	31	1,175.61	260	200
1917	31	1,961.73	433	239
1918	32	1,941.73	429	217
1919	39	2,110.84	466	222
1920	33	432.99	96	42
1921	34	—31.98	......	......
1922	30	668.35	148	97
1923	26	204.80	45	29

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*See Cornell University Agr. Exp. Sta. Bul. 414 for a full description of the methods of conducting this investigational work and for the results thru the year 1920.

These results are from some farms that in normal times are the most successful. The most successful farmers in normal times use more than the average amount of hired labor and, in general, have larger businesses than the average farmer. In a period of deflation such farmers lose more than the average farmer. The small farm business can be operated during a period of falling prices without hired help and thus cut down the loss due to this important item of expense. This is not true of the large farm business.

RESULTS FOR INDIVIDUAL ENTERPRISES

Some of the most important results for individual enterprises for each year from 1921 to 1923, inclusive, and for the ten-year period, 1914 to 1923, inclusive, are presented in Table 2.

TABLE 2.—SUMMARY OF NEW YORK STATE FARM COST ACCOUNTING RESULTS, 1921 TO 1923, AND FOR THE TEN-YEAR PERIOD, 1914-1923

	1921	1922	1923	Average 1914-23
Human Labor				
Number of farms	34	30	26	....
Man equivalent	2.8	3.0	3.0	2.8
Total hours of labor	8618	9327	9648	8711
Hours per person per year*	3076	3080	3184	3073
Cost per hour worked	$0.3900	$0.3772	$0.3778	$0.3561
Horse Labor				
Number of farms	34	30	26	....
Percentage of farms using tractors	41.2	43.3	50.0	23.4
Horses per farm	4.3	4.3	4.3	4.7
Total hours worked by horses per farm	3880	3758	3842	4423
Hours per horse per year	906	876	885	942
Pounds of grain fed per horse	2405	2512	2681	2848
Pounds of dry forage fed per horse	6059	5952	6616	6758
Hours human labor to care for a horse	108	105	110	119
Cost of feed and bedding per horse	$96.03	$84.70	$99.77	$114.45
Total cost of keeping a horse	$189.32	$163.30	$179.08	$195.21
Cost per hour of horse labor	$0.1914	$0.1675	$0.1856	$0.1909
Equipment (exclusive of tractors, autos, trucks and some special equipment)				
Number of farms	34	30	26	....
Average value per farm	$1,113.18	$1,092.00	$1,108.03	$999.80
Value per acre of crops	$11.60	$10.56	$10.23	$9.97
Annual cost per acre of crops	$4.22	$3.74	$3.68	$3.21
Cost of equipment per hour of horse labor	$0.1031	$0.1019	$0.1040	$0.0760
Annual cost in per cent of value	36.4	35.4	35.9	32.0
Tractor and Special Tractor Tools				1915-23
Number of farms	12	13	13	—
Acres of crops per farm	123.9	131.1	138.5	138.5
Depreciation on tractor and special tractor tools	$284.88	$181.58	$158.09	$176.94
Cash repairs on tractor and special tractor tools	83.96	48.95	60.41	56.83
Total year cost of tractor and special tractor tools	$592.46	$401.14	$421.35	$423.83
Hours of tractor use per year	295	260	358	288
Cost per hour of tractor use	$2.0119	$1.5408	$1.1799	$1.5655
Gallons of gasoline and kerosene for 10-hour day of use	19.4	18.8	18.3	19.6
Gallons of oil per 10-hour day of use	1.3	1.6	1.1	1.3
Hours of human labor to take care of tractor	67	69	72	91

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*Total hours divided by total workers, not by man equivalent.

	1921	1922	1923	Average 1914-23
Cows				
Number of farms	21	18	18	....
Number of cows per farm	18.9	18.7	18.2	19.0
Pounds grain per cow	1925	1710	1963	1903
Pounds hay per cow	4617	3125	4133	3699
Pounds silage per cow	7092	7490	7563	6786
Cost of feed and bedding per cow	$105.82	$90.67	$108.76	$101.19
Hours human labor per cow	147.5	156.9	158.9	149.3
Cost human labor per cow	$52.96	$53.06	$55.31	$50.91
Cost horse and equipment labor per cow	$10.22	$8.30	$9.30	$7.30
Total cost per cow (includes depreciation if any)	$212.52	$188.91	$214.84	$190.01
Cost of milk per 100 lbs. sold	$3.057	$2.622	$2.968	$2.664
Pounds milk per cow	6495	6323	6575	6350
Value milk and milk products per cow	$159.33	$148.63	$164.29	$160.72
Price of milk per 100 lbs. sold	$2.390	$2.222	$2.353	$2.462
Total returns per cow (includes appreciation if any)	$175.04	$168.26	$181.40	$179.46
Profit or loss per cow	$—37.48	$—20.66	$—33.44	$—10.56
Returns per hour human labor	$0.10	$0.21	$0.14	$0.28
				1915-23
Mature Poultry				
Number of farms	6	7	7	....
Number of hens	613.4	496.7	472 5	567.3
Number of roosters	13.6	14.1	16 4	19.7
Pounds mash per fowl	28.3	24.7	29.9	25.1
Pounds grain per fowl	42.0	46.5	46.2	44.9
Total costs per fowl (includes depreciation if any)	$2.77	$2.99	$3.57	$3.15
Eggs per hen	82.7	97.9	105.8	93.8
Value eggs per hen	$3.00	$3.07	$3.43	$3.50
Total returns per fowl (includes appreciation if any)	$3.00	$3.08	$3.44	$3.50
Profit or loss per fowl	$0.23	$0.09	$—0.13	$0.34
Returns per hour human labor	$0.57	$0.45	$0.30	$0.59
Hay				1914-23
Number of farms	33	30	26	....
Acres grown per farm	40.4	41.9	42.8	40.2
Yield tons per acre	1.23	1.54	1.58	1.51
Hours human labor per acre	9.0	11.1	10.7	10.5
Hours horse labor per acre	8.9	10.6	10.0	10.2
Cost of lime and other fertilizer per acre	$0.50	$1.33	$0.51	$0.56
Cost of manure per acre	$5.22	$4.65	$5.13	$4.57
Cost per acre	$23.15	$24.18	$23.78	$21.24
Cost per ton	$18.59	$15.49	$14.95	$14.01
Value per ton	$17.53	$13.38	$15.34	$16.15
Profit per acre	$—1.30	$—3.25	$.62	$3.48
Profit per ton	$—1.06	$—2.12	$.39	$2.14
Returns per hour of human labor	$.25	$.08	$.43	$.69
Corn Silage				
Number of farms	24	22	20	....
Acres grown per farm	11.4	11.9	12.2	12.7
Yield tons per acre	10.1	6.8	7.1	6.9
Hours human labor per acre	41.7	37.9	37.7	38.2
Hours horse labor per acre	46.2	42.7	44.1	48.2
Cost of lime and other fertilizer per acre	$2.91	$3.27	$2.28	$2.49
Cost of manure per acre	$10.96	$11.20	$10.68	$9.88
Cost per acre	$69.32	$59.82	$61.21	$54.66
Cost per ton	$6.61	$8.30	$8.63	$7.87
Potatoes				
Number of farms	24	26	18	....
Acres grown per farm	4.1	4.0	5.4	4.6
Yield, bushels per acre	132.3	121.5	143.5	126.2
Hours human labor per acre	105.3	92.8	84.5	95.2
Hours horse labor per acre	76.0	68.1	62.7	75.8
Cost of lime and other fertilizer per acre	$8.58	$7.84	$5.52	$6.47
Cost of manure per acre	$11.32	$13.26	$11.45	$9.95
Cost per acre	$120.03	$108.72	$99.84	$104.18
Cost per bushel	$0.91	$0.89	$0.70	$0.85
Value per bushel	$1.09	$0.62	$0.81	$0.99
Profit or loss per acre	$24.38	$—32.98	$17.06	$12.80
Profit or loss per bushel	$0.18	$—0.27	$0.12	$0.14
Returns per hour of human labor	$0.59	$—0.01	$0.56	$0.50

	1921	1922	1923	Average 1914-23
Wheat				
Number of farms	21	12	14	....
Acres grown per farm	13.3	18.0	16.2	14.6
Yield, bushels per acre	20.8	20.0	25.4	22.9
Hours human labor per acre	20.1	21.5	23.3	23.5
Hours horse labor per acre	23.6	29.6	22.9	31.9
Cost of lime and other fertilizer per acre	$4.64	$3.35	$2.99	$2.89
Cost of manure per acre	$4.21	$4.03	$4.22	$4.47
Cost per acre	$51.50	$43.69	$43.79	$41.24
Cost per bushel	$2.25	$1.98	$1.53	$1.64
Value per bushel	$1.20	$1.21	$1.01	$1.56
Profit or loss per acre	$—21.68	$—15.34	$—13.29	$—1.17
Profit or loss per bushel	$—1.04	$—0.77	$—0.52	$—0.08
Returns per hour of human labor	$—0.69	$—0.34	$—0.20	$0.28
Beans				
Number of farms	3	4	5	....
Acres grown per farm	6.2	9.4	15.2	9.0
Yield, bushels per acre	17.3	17.8	10.3	12.8
Hours human labor per acre	53.8	31.6	29.2	41.1
Hours horse labor per acre	47.6	28.6	42.2	47.2
Cost of lime and other fertilizer per acre	$1.37	$1.38	$1.50	$1.77
Cost of manure per acre	$6.77	$6.22	$4.84	$5.31
Cost per acre	$73.29	$50.53	$43.58	$52.70
Cost per bushel	$3.99	$2.64	$3.92	$4.49
Value per bushel	$2.82	$3.66	$2.91	$3.48
Profit or loss per acre	$—20.16	$18.17	$—10.34	$—8.30
Profit or loss per bushel	$—1.17	$1.02	$—1.01	$—1.01
Returns per hour of human labor	$—0.01	$0.96	$—0.01	$0.18
Corn for Grain				
Number of farms	14	9	4	....
Acres grown per farm	5.7	7.1	10.7	7.0
Yield, bushels per acre	43.8	32.7	29.3	31.8
Hours human labor per acre	75.5	63.2	54.2	65.8
Hours horse labor per acre	52.2	59.4	54.4	56.6
Costof lime and other fertilizer per acre	$1.38	$1.68	$1.35	$1.39
Cost of manure per acre	$7.43	$4.71	$10.39	$6.75
Cost per acre	$76.67	$69.56	$69.14	$61.78
Cost per bushel	$1.53	$1.94	$2.22	$1.70
Value per bushel	$0.72	$0.96	$0.98	$1.06
Profit or loss per acre	$—35.56	$—31.84	$—36.27	$—20.35
Profit or loss per bushel	$—0.81	$—0.97	$—1.24	$—0.64
Returns per hour of human labor	$—0.05	$—0.09	$—0.25	$0.06
Barley				
Number of farms	8	4	6	....
Acres grown per farm	5.5	5.2	4.9	7.3
Yield, bushels per acre	19.4	17.6	27.9	24.0
Hours human labor per acre	21.1	22.3	17.8	21.4
Hours horse labor per acre	27.3	36.4	27.1	32.0
Cost of lime and other fertilizer per acre	$2.45	$1.96	$0.94	$2.30
Cost of manure per acre	$4.04	$7.65	$4.31	$5.81
Cost per acre	$38.85	$38.62	$29.23	$36.20
Cost per bushel	$1.84	$2.06	$0.88	$1.46
Value per bushel	$0.72	$0.84	$0.76	$0.96
Profit or loss per acre	$—21.60	$—21.46	$—3.39	$—9.80
Profit or loss per bushel	$—1.12	$—1.22	$—0.12	$—0.50
Returns per hour of human labor	$—0.64	$—0.56	$0.15	$—0.13
Cabbage				
Number of farms	13	8	4	....
Acres grown per farm	3.5	5.0	3.7	4.7
Yield, tons per acre	6.9	6.3	4.4	6.9
Hours human labor per acre	117.8	69.3	102.6	98.7
Hours horse labor per acre	86.5	63.5	53.7	82.2
Cost of lime and other fertilizer per acre	$7.89	$8.05	$1.82	$5.50
Cost of manure per acre	$9.18	$7.50	$11.33	$9.06
Cost per acre	$115.88	$74.58	$73.16	$86.12
Cost per ton	$16.00	$11.61	$15.36	$12.55
Value per ton	$26.11	$5.85	$11.24	$15.64
Profit or loss per acre	$69.45	$—36.23	$—18.22	$13.43
Profit or loss per ton	$10.11	$—5.76	$—4.12	$3.10
Returns per hour of human labor	$1.00	$—0.16	$0.11	$0.45

	1921	1922	1923	Average 1914-23
Alfalfa				
Number of farms	7	7	4	....
Acres grown per farm	15.7	15.3	27.9	12.3
Yield, tons per acre	1.9	2.6	2.2	2.4
Hours human labor per acre	21.2	27.0	22.9	25.6
Hours horse labor per acre	22.7	22.6	21.3	24.0
Cost of lime and other fertilizer per acre	$0.65	$0.34	....	$0.90
Cost of manure per acre	$2.83	$1.93	$1.59	$2.71
Cost per acre	$32.45	$30.13	$29.74	$31.70
Cost per ton	$17.15	$11.39	$13.23	$13.23
Value per ton	$19.42	$13.48	$17.29	$18.53
Profit per acre	$4.30	$5.52	$9.14	$13.24
Profit per ton	$2.27	$2.09	$4.06	$5.30
Returns per hour of human labor	$0.62	$0.62	$0.79	$0.88
Buckwheat				
Number of farms	2	2	4	....
Acres grown per farm	3.0	13.6	11.6	7.3
Yield, bushels per acre	27.2	18.8	14.2	17.0
Hours human labor per acre	31.3	19.8	20.5	21.7
Hours horse labor per acre	39.3	30.1	24.1	31.4
Cost of lime and other fertilizer per acre	$1.94	$0.85	$1.01	$1.39
Cost of manure per acre	$3.48	$1.75	$3.64	$2.02
Cost per acre	$39.15	$23.31	$26.65	$26.95
Cost per bushel	$1.17	$1.10	$1.76	$1.56
Value per bushel	$0.73	$0.75	$0.85	$1.06
Profit or loss per acre	$—12.04	$—6.70	$—12.82	$—7.03
Profit or loss per bushel	$—0.44	$—0.36	$—0.90	$—0.50
Returns per hour of human labor	$—0.03	$—0.01	$—0.30	$0.02
Oats				
Number of farms	21	20	19	....
Acres grown per farm	13.9	13.1	13.2	13.8
Yield bushels per acre	24.9	27.1	34.8	33.4
Hours human labor per acre	20.4	22.0	18.7	21.8
Hours horse labor per acre	27.8	29.0	24.9	29.1
Cost of lime and other fertilizer per acre	$1.90	$3.57	$1.59	$2.34
Cost of manure per acre	$5.25	$4.96	$4.09	$5.17
Cost per acre	$36.08	$36.83	$30.23	$34.32
Cost per bushel	$1.28	$1.21	$.72	$.95
Value per bushel	$.51	$.51	$.54	$.62
Profit or loss per acre	$—19.29	$—19.04	$—6.31	$—9.15
Profit or loss per bushel	$—0.78	$—0.70	$—0.18	$—0.33
Returns per hour of human labor	$—0.59	$—0.50	$0.02	$—0.10

COMPARISON OF CROPS AND LIVESTOCK

A comparison is made in Table 3 of the average profits or losses per farm from the two principal sources of farm income, crops and livestock.

TABLE 3.—COMPARATIVE PROFITS OR LOSSES PER FARM FROM CROPS AND LIVESTOCK AND THE TOTAL PROFITS FROM BOTH CROPS AND LIVESTOCK MEASURED IN PURCHASING POWER.*

1914 = 100.

	Profits or Losses per Farm				
Year	From All Crops	From All Livestock	From All Crops and Livestock	Index Numbers	Purchasing Power
1914	$310.57	$137.53	$448.10	100	100
1915	582.13	18.51	600.64	134	130
1916	974.95	244.18	1,219.13	272	209
1917	1,412.19	628.14	2,040.33	455	251
1918	1,250.33	348.29	1,598.62	357	180
1919	1,028.70	50.70	1,079.40	241	115
1920	—171.13	—628.59	—799.72	......	......
1921	—202.73	—563.45	—766.18	......	......
1922	—12.39	—218.83	—231.22	......	......
1923	—146.32	—464.78	—611.10	......	......
Average—1914-23	$502.63	$—44.83	$457.80	......	......

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*The results given in this table and in all subsequent tables are from the same farms as indicated in Table 1. The losses are indicated by a minus (—) sign.

The profits from all crops per farm were in each year higher during the period of inflation (1914-1919) and the losses lower during the period of deflation (1920-1923) than were the profits or losses from all livestock during the same periods. The ten-year average profit from all crops per farm was $502.63. On the other hand, all livestock per farm suffered an average loss of $44.83 for the same ten-year period. This resulted in an average annual profit of $457.80 from all crops and all livestock per farm from 1914 to 1923. The margin of profit is usually higher from crops than from livestock. This, of course, is no argument against keeping enough livestock to make good use of the available untillable pasture land and the crop by-products that are not readily salable; but it does bring out the fact that great care must be exercised in choosing the most profitable class of livestock for the particular region. Another argument in favor of including some kind of livestock in the farm business is that more efficient use is made of the available human labor on the farm. Although a much lower return per hour of labor may be received from the time spent on livestock than from that spent on crops, this lower return is better than remaining idle.

HUMAN LABOR AND HORSE LABOR

Human labor and horse labor combined are by far the largest items of farming costs. The costs per hour of human labor and of horse labor on these farms for each year, 1914 to 1923, inclusive, are shown in Table 4.

TABLE 4.—AVERAGE COSTS OF HUMAN LABOR AND HORSE LABOR PER HOUR (1914 TO 1923) AND A COMPARISON OF THESE COSTS WITH THE GENERAL PRICE LEVEL OF ALL COMMODITIES FOR THE SAME PERIOD.—1914 = 100.

Year	Human Labor per Hour	Index Numbers	Comparison with General Price Level	Horse Labor per Hour	Index Numbers	Comparison with General Price Level
1914	$.2508	100	100	$.1580	100	100
1915	.2599	104	101	.1548	98	95
1916	.3026	121	93	.1666	105	81
1917	.3563	142	78	.1970	125	69
1918	.3957	158	80	.2259	143	72
1919	.4144	165	79	.2436	154	73
1920	.4366	174	75	.2188	138	60
1921	.3900	156	104	.1914	121	81
1922	.3772	150	99	.1675	106	70
1923	.3778	151	96	.1856	117	75

The human labor cost per hour rose from 25 cents in 1914 to 41 cents in 1919, but it did not increase so rapidly as did the price of all commodities. The charge per hour for labor includes the time of the farmer and is higher than the rate for hired labor as the operators of these farms are men of unusual ability. Therefore, during the period of inflation this lag in the cost of human labor was much to the benefit of these farmers. However, the hired man's wages could not be cut immediately when the price of farm products fell. In fact, the highest cost per hour of human labor was reached in 1920. In 1921, although there was a slight decrease in the dollar cost of human labor, when this cost is compared with the general price level of the same year, human labor on these farms is found to be 4 points above the price of all commodities. This undoubtedly explains to an appreciable extent the minus labor income for 1921 as shown in Table 1.

Horse labor costs did not increase so rapidly and started to fall at the beginning of the deflation period. Undoubtedly, work horses use a larger percentage of farm grown feed than do any other class of farm livestock and the cost of their labor is influenced immediately by the price of hay, oats and other horse feeds. The increase in the horse labor costs in 1923 is probably due to the increasing feed costs more than to any other one cause. Farmers have been able to hold the cost of horse labor down, but have not been able to curtail the cost of human labor.

ALL FEED

All farm grown feed for which a market price could be established was charged to livestock at what it would sell for at the farm. Practically all the hay and silage and a small proportion of the grain fed was raised on the farms. Over the ten-year period feed prices on these farms averaged about 10 points below the general price level with the exception of 1920, when feed was relatively cheap being 26 points below the price of all commodities. This is to a considerable extent due to the continued low price of hay. Purchased feeds have been higher than the index would indicate.

TABLE 5.—INDEX NUMBERS OF ALL KINDS OF FEED USED ON DAIRY AND POULTRY FARMS (1914 TO 1923) COMPARED WITH THE GENERAL PRICE LEVEL FOR THE SAME PERIOD.—1914 = 100.

Year	Index Numbers	Comparison with General Price Level
1914	100	100
1915	92	89
1916	120	92
1917	163	90
1918	184	93
1919	194	92
1920	170	74
1921	130	87
1922	130	86
1923	141	90

TAXES

The average cost of all taxes per acre, including state, county and school taxes, is presented in Table 6. This cost is compared with the general price level of all commodities.

Taxes on these farms exactly doubled in dollars in the ten-year period, the increase being from 67 cents per acre in 1914 to $1.34 per acre in 1923. The dollar increase was very gradual during the period of inflation. Taxes were low as compared with the general price level. The largest increase in taxes came in 1920 and they have gradually increased up to the present time, during the period when the purchasing power of the farmers was lowest. For example, in 1923 taxes on these farms were 27 percent above the general price level, whereas the purchasing power of the labor incomes from the same farms was 71 percent below the general price level. Such conditions bring hardships on those farmers who are fortunate in having their farms paid for, but are disastrous to those who must meet heavy interest obligations.

TABLE 6.—AVERAGE COST OF ALL FARM TAXES PER ACRE (1914 TO 1923) COMPARED WITH THE GENERAL PRICE LEVEL FOR THE SAME PERIOD.—1914 = 100.

Year	Cost per Acre	Index Numbers	Comparison with General Price Level
1914	$.67	100	100
1915	.70	104	101
1916	.72	107	82
1917	.84	125	69
1918	.88	131	66
1919	.95	142	68
1920	1.25	187	81
1921	1.26	188	125
1922	1.27	190	125
1923	1.34	200	127

C. V. NOBLE

POTATO PRICES

This fall was unusually favorable for the potato crop and the October estimate of the United States Department of Agriculture, used in Farm Economics No. 19, was materially increased. The December estimate was 455 million bushels.

For many years before 1920, the consumption of potatoes was increasing. If this increase had continued to the present, the normal supply would have been 3.71 bushels per capita and would call for a crop of 426 million bushels. Such a crop would be expected to sell for a normal price; that is, a price relatively as high as the general price level.

For two decades prior to 1920 the trend of prices was upward. During such a period, wages usually lag and, therefore, the cheaper staple foods experience an increasing demand.

Since 1920 the price level has been downward, wages have been high, and the demand for the cheaper staple foods has been unusually low. For the last three years potatoes sold so low that a production of 3.45 bushels per capita would probably have brought the normal price. This would mean, with the present population, a crop of about 400 million bushels. This year's crop of 455 million bushels is 14 per cent above a normal of 400 million bushels. On the average a crop of this size would result in prices 24 per cent below normal and would indicate that potatoes in the New York wholesale market might sell from October to June for $2.74 per 180 pounds. During October, the price was $2.14; November, $1.96; and December 1-15, $2.05.

Since 1906, there have been seven years when the potato crop was about the same size as this year's crop. In all but one of these years the highest average monthly price occurred after December. In none of these years were large profits made from storing potatoes. In the season of 1917-18 the losses were large. Usually in large crop years prices do not advance sufficiently to cover costs of storing.

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FARM ECONOMICS

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BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	146	86	118	197
1923	157	161	163	155	95	126	214
1924	153	152	146	166	77	83	218
Oct., 1923	156	159	150	143	85	106	218
November	155	155	149	151	87	97	218
December	154	154	153	157	92	93	220
Jan., 1924	154	153	153	163	100	92	219
February	155	156	153	165	102	91	218
March	153	152	151	162	95	91	222
April	151	149	144	156	94	84	218
May	150	148	141	154	88	76	217
June	148	146	141	156	83	70	214
July	150	147	137	164	70	69	214
August	153	151	144	170	58	72	216
September	152	152	145	170	53	79	221
October	155	155	143	169	53	80	217
November	156	157	146	178	58	90	218
December	160	159	152	190	68	101	223
Jan., 1925	....	165	160	201	75	....	....

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[1] Copyrighted by Irving Fisher. [2] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York Herald-Tribune. The data as published, are converted to the 1910-14 base by multiplying by 2.05. [3] Corresponding months 1910-1914 = 100. [4] June, 1914 = 100.

GENERAL BUSINESS

All of the measures of business point to increased activity at least for the first half of 1925. Unfilled orders of the United States Steel Corporation, pig iron production, and car loadings are all rising. Wholesale prices, as indicated by Fisher's index number, have risen from 46 per cent above pre-war last June to 65 per cent above.

Wholesale prices are now practically as high as they were in the spring of 1923 and show no indication of having reached the peak.

When the rise in prices began last summer, food products increased most rapidly at first. Since that time most classes of manufactured products have advanced.

Prices of industrial stocks for January, 1925, are double pre-war. Industrial shares represent ownership of city industries. The valuation placed on city industries by those buying shares is higher than ever before. It is interesting to note that the peak in prices of farm land before the panic of 1920 was just double the pre-war. In each case, the prices were amply justified on the basis of profits at the moment.

When the profits in agriculture disappeared, land became unsalable. The fact that the public is willing to pay twice pre-war prices for ownership of city enterprises, but is usually not willing to buy farms at any price, indicates the extent to which city industries are profiting by cheap farm products. The disparity has continued for five years, and may continue for a time, but the forces of readjustment are already set in motion. It is only a question of time when farm property will again have a sale value. The values placed on city real estate and city industries will then have to depend on real earnings, rather than on contributions of cheap food made by farmers.

The current prices of farm land, city real estate, and city industries are based on profits of the past few years. Real values depend not on past earnings, but on future earnings. When pre-war is called 100, shares in American industry are selling for 201, but shares in American agriculture as represented by farm land, last spring, stood at 141. However, this figure is nominal, as it is very difficult to sell land at any price in many regions. Ultimately a readjustment between industry and agriculture is inevitable.

Interest rates have been a little over one-half of the pre-war. Rates have been low for over a year, but were especially low last fall. These low rates are stimulating business activity. They also increase the desire to lend to foreign countries where rates are higher. Interest rates are now rising.

The most striking feature of the last year's business was the stabilization of money in various foreign countries. Germany has kept the mark substantially at par for over a year. Russia has kept her paper currency fairly stable. French and Italian money are only worth about one-fourth of the pre-war value, but have been comparatively stable for some time. The English pound is now practically at par. Presumably, gold payments will be resumed in the not distant future.

Gold has already begun to move from the United States to European countries, a movement that is likely to continue, with possible interruptions, for many years.

PRICES, 1910-14 = 100

Year	Non-Agricultural Products[1]	Farm Prices		Prices of Food in the United States		
		New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[3]	Retail prices in cities[3]
1913	103	97	99	101	99	103
1914	97	103	101	105	101	105
1915	100	100	101	106	104	104
1916	136	116	119	120	120	118
1917	181	170	180	180	165	151
1918	192	186	206	197	186	173
1919	201	206	215	210	205	192
1920	241	217	214	209	218	209
1921	166	144	119	128	143	158
1922	168	134	124	122	137	146
1923	172	142	137	122	143	151
1924	167	128	140	126	143	150
Jan., 1923	175	127	137	126	140	148
February	177	132	136	123	140	146
March	180	133	138	123	142	146
April	181	143	139	122	143	147
May	177	148	138	124	143	147
June	173	163	134	121	141	148
July	170	157	134	120	140	152
August	168	149	129	118	141	151
September	169	151	133	122	146	154
October	166	147	138	123	147	155
November	165	143	141	122	147	156
December	163	135	143	123	146	155
Jan., 1924	165	123	143	121	142	154
February	167	123	142	122	142	152
March	166	125	136	119	140	148
April	164	130	135	118	136	145
May	162	129	135	118	136	145
June	160	135	134	119	135	147
July	169	129	138	124	137	148
August	169	133	146	132	143	149
September	168	129	137	129	146	151
October	168	127	145	137	150	153
November	169	134	145	138	152	155
December	172	135	147	141	156	156

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[1] United States Bureau of Labor Statistics wholesale prices of cloths and clothing, fuel and lighting, metals and metal products, building materials, chemicals and drugs, house furnishing goods, and miscellaneous. These approximately represent non-agricultural products.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

[3] From United States Bureau of Labor Statistics.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Corn, bu.	October	1.089	1.33	155	168
	November	.996	1.28	157	166
	December	1.056	1.34	181	179
Oats, bu.	October	.489	.61	125	130
	November	.474	.59	123	128
	December	.506	.60	130	128
Wheat, bu.	October	1.297	1.37	148	141
	November	1.336	1.48	152	153
	December	1.411	1.53	164	156
Barley, bu.	October	.814	.86	135	115
	November	.797	.89	133	119
	December	.762	.91	126	121
Rye, bu.	October	1.051	1.00	143	127
	November	1.086	1.12	148	140
	December	1.127	1.20	152	148
Buckwheat, bu.	October	1.116	1.00	154	135
	November	1.068	1.04	149	144
	December	1.046	1.01	147	140
Flaxseed, bu.	October	2.108	....	126	....
	November	2.227	....	137	....
	December	2.358	....	152	....
Beans, bu.	October	3.72	3.90	165	160
	November	3.81	3.80	170	158
	December	3.91	4.00	171	165
Cotton, lb.	October	.231	....	191	....
	November	.226	....	187	....
	December	.220	....	180	....
Hay, ton	October	12.64	14.30	109	94
	November	12.91	13.60	111	91
	December	12.69	13.80	103	90
Onions, bu.	October	1.56	1.21	162	155
	November	1.53	1.13	159	147
	December	1.54	1.24	152	151
Potatoes, bu.	October	.688	.68	99	99
	November	.640	.53	107	95
	December	.641	.56	106	88
Sweet potatoes, bu.	October	1.485	....	175	....
	November	1.322	....	173	....
	December	1.401	....	194	....
Apples, bu.	October	1.160	1.00	168	164
	November	1.200	1.09	166	168
	December	1.280	1.19	166	161
Horses, head	October	77.00	116.00	56	66
	November	76.00	112.00	55	64
	December	73.00	114.00	54	65

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	October	.194	.24	164	155
	November	.185	.22	162	152
	December	.179	.228	166	165
Eggs, doz.	October	.382	.50	171	167
	November	.458	.62	180	177
	December	.499	.63	166	154
Butter, lb.	October	.388	.45	150	145
	November	.393	.44	147	138
	December	.418	.48	148	141
Milk, 3.7% Pool price (Utica)	October	....	2.11	....	118
	November	....	2.51	....	134
	December	....	2.66	....	139
Milch cows, head	October	54.30	70.00	109	125
	November	55.05	68.00	110	121
	December	54.00	66.00	108	117
Beef cattle, cwt.	October	5.52	5.70	104	100
	November	5.43	5.20	104	95
	December	5.35	5.30	102	97
Veal calves, cwt.	October	8.22	11.00	117	124
	November	7.89	10.60	114	120
	December	7.84	11.40	113	130
Sheep, cwt.	October	6.32	5.70	147	140
	November	6.39	5.30	150	135
	December	6.84	5.80	157	134
Lambs, cwt.	October	10.35	11.20	188	187
	November	10.55	11.10	193	184
	December	10.96	11.90	193	193
Wool, lb.	October	.373	.41	218	195
	November	.401	.41	233	195
	December	.422	.45	244	214
Hogs, cwt.	October	9.45	9.60	128	121
	November	8.62	9.50	124	128
	December	8.39	10.00	125	136

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	October	35.40	129
	November	34.80	129
	December	37.00	137
Cottonseed meal, ton	October	56.00	163
	November	54.00	161
	December	52.50	157

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

1910-1914 = 100

	N. Y.	Ohio*	Iowa	N. D.	Ore.	Ga.	Texas
1910	101	103	98	108	107	110	108
1911	97	89	87	101	97	103	98
1912	101	101	102	102	96	86	92
1913	97	103	103	89	98	98	100
1914	103	105	109	98	102	91	95
1915	100	104	107	123	106	80	93
1916	116	120	120	126	114	117	120
1917	170	181	181	199	168	184	177
1918	186	201	202	221	191	242	220
1919	206	216	211	237	198	238	222
1920	217	210	187	240	195	257	217
1921	144	130	102	125	119	105	105
1922	134	127	106	111	119	147	132
1923	142	133	113	105	119	202	167
1924	128	134	103	122	....	202	166
1923							
January	127	133	118	102	125	190	161
February	132	134	112	108	120	200	164
March	133	133	111	108	123	215	173
April	143	134	111	113	119	211	175
May	148	139	113	117	123	191	165
June	163	140	112	109	127	190	158
July	157	131	110	102	127	191	163
August	149	132	108	97	116	181	162
September	151	129	114	99	115	190	153
October	147	129	113	105	114	210	166
November	143	130	114	104	116	221	177
December	135	129	114	103	109	233	186
1924							
January	123	128	113	111	111	244	191
February	123	130	113	113	110	238	185
March	125	128	111	117	108	211	171
April	130	130	110	113	106	220	167
May	129	130	112	111	109	212	164
June	135	127	111	110	113	201	165
July	129	125	119	125	119	199	166
August	133	133	130	129	133	203	175
September	129	137	128	118	130	170	148
October	127	145	136	136	....	179	153
November	134	144	134	139	142	174	155
December	135	148	138	147	140	171	154

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*Index number for Ohio were prepared by J. I. Falconer.

PRICE OF FARM PRODUCTS

The most striking change in the prices of farm products is the rise in the price of grains, due primarily to weather conditions. Prices of food at retail in American cities rose from an index 145 in May to 156 in December, an increase of 11 points. Prices paid to farmers for food rose from 118 to 141, or an increase of 23 points. This again illustrates the fundamental principle of the relationship of retail prices and prices paid to farmers. When prices suddenly rise, most of the increase is passed on to farmers and hence increases the farm price by a much greater percentage than the increase in retail prices. If retail prices should rise to about 175, prices paid to farmers for food would doubtless rise to about the same figure, so that farm prices would be in adjustment with retail prices.

Prices of non-agricultural products for December were 72 per cent above the pre-war level. Prices paid to farmers for food are 41 per cent above pre-war, and prices paid to farmers for all farm products are 47 per cent above pre-war. The disparity between the prices of farm products and other products is much less than it has been at any time during the past four years.

Compared with December a year ago, the following farm products are materially higher than last year; corn, oats, wheat, barley, rye, buckwheat, flaxseed, sweet potatoes, apples, beans, hogs, and wool.

The following products are a little higher than last year; chickens, eggs, sheep, lambs, dairy cows, and veal calves.

The following products are lower than last year: cotton, butter, beef cattle, potatoes, onions, horses, and hay.

Of the 25 products listed above 18 are higher in price than last year. Seven of the 18 products are grains, the prices of which have advanced because of the unfavorable season.

The following important products are still very low in price: beef cattle, dairy cows, veal calves, hogs, hay, potatoes, and horses.

In December a year ago the index number of all farm products was 43 per cent above pre-war, but products other than grains averaged 52 per cent above pre-war. In December, this year, the average of all farm products has increased to 47 per cent above pre-war, while products other than grains are but 42 per cent above. The decline in the price of cotton and some other products has been sufficient to lower the index number for non-grain products 10 points. The rise in the price of grain has been sufficient to offset these declines and raise the final index number 4 points.

As a whole, the present outlook for agriculture is more favorable than it has been at any other time in the past five years. The high price of corn and wheat will result in entering the new crop year, with stocks of these reduced. The number of hogs and horses on farms are rapidly decreasing. Apparently the expansion in dairy and poultry is likely to be checked. Beef cattle have been unprofitable for so long a time that the number is being reduced. Industrial conditions are improving so that the total demand for farm products probably will be higher. This does not mean that the agricultural depression is over. The short world crop of corn and wheat have greatly improved the situation and the factors mentioned above make the outlook for 1925 less discouraging than was the outlook in the spring of any of the last five years. There is, however, no reason for assuming that the agricultural depression is over. The need for caution in all expenditures continues.

PRICES OF FARM PRODUCTS IN NEW YORK STATE

The average prices paid to farmers in New York for 1924 were much lower than for any year of the panic period. The year 1922 was bad, some recovery occurred in 1923, only to be more than lost in 1924. The average prices paid to farmers in 1924 for the more important products were 28 per cent above the five year pre-war average. Earnings of New York State factory workers were 118 per cent of pre-war. A given quantity of farm products at prices paid to farmers would hire only 59 per cent of the pre-war amount of New York factory labor.

A little improvement has begun and the index number of prices in December is 35 per cent above pre-war. The pool price of milk in December was 39 per cent above pre-war, but potatoes and hay were far below pre-war prices. The outlook for milk prices is better than last year.

CORN

The yield per acre of corn in the United States in 1924 was 16 per cent below the ten-year average. The very unfavorable weather, together with the large number of hogs to be fed, resulted in a striking increase in the price of corn. This is reducing the number of hogs. By next year, it is to be expected that the demand for corn as feed for hogs will be less and there will doubtless be some increase in the corn acreage. Since there is little chance that the weather will be as bad as last summer, there is little chance that corn will be so high in price.

WHEAT

The world crop of wheat in 1924 was 12 per cent less than in 1923. The European crop was so poor that the exports of wheat and flour from July to November of this year were almost double the exports in 1923.

The acreage of winter wheat in the Northern Hemisphere for next year as reported by the United States Department of Agriculture is 3 per cent above the acreage a year ago. Considerable of the rise in the price of wheat did not occur until after winter wheat was planted. Presumably the acreage of spring wheat will be increased by a much larger percentage. There seems to be no more reason for expecting wheat to continue at the present high prices than there was for expecting the low prices of last year to continue.

POTATOES

The cool summer which caused an increase in the production in dairy products and a decrease in demand for them, also caused a large increase in the yield of potatoes. Reports for twenty-five leading potato-producing countries showed a production of potatoes of 11 per cent above the production in 1923.

The very high wages and cheap foods are unfavorable for potato prices. It is probable that the acreage planted in the United States is a little too high, because food is so cheap, that consumers prefer more expensive foods. However, the dominating factor in potato prices is the weather.

DAIRY PRODUCTS

The number of dairy cows in the United States on January 1, 1924, was 24.8 million. The number on January 1, 1925, was estimated at 25.3 million, or an increase of 2 per cent. The rate of increase was most rapid from 1921 to 1923. Apparently the movement into the dairy business has been somewhat checked. Since 1921, the low prices of grain, hogs, and beef cattle caused a great increase in the interest in dairying in the grain producing regions of the Middle West. The number of dairy cows in the East decreased 1 per cent from 1921 to 1925, but increased 18 per cent in the Dakotas, Nebraska, and Kansas. The present high prices of grain and rising prices for hogs will doubtless check the expansion of western dairying.

PERCENTAGE CHANGE IN NUMBER OF DAIRY COWS FROM 1921 TO 1925

		Percent
New England, New York, Pennsylvania	Decrease	1
Wisconsin, Minnesota, Iowa	Increase	12
North Dakota, South Dakota, Nebraska, Kansas	"	18
Idaho, Utah, Oregon, Washington	"	16
South Carolina, Georgia, Alabama, Mississippi	"	5

Last year there was some decline in industrial activity which resulted in decreased demand for milk and cream. The cool summer resulted in a further decrease in demand, and at the same time increased the supply. The outlook for the dairy farmer for the coming year is apparently better than for last year, both as to demand and as to supply.

In the northeastern states, dairy farmers have had several unsatisfactory years. This has resulted in some shortage of yearling bulls and has probably reduced the number of heifers being raised.

EGGS AND POULTRY

At average farm prices in the United States for fifteen years 3.7 dozen of eggs would buy a bushel of grain (half wheat and half corn). For the three years, 1921-1923, it required only 2.8 dozen eggs to buy a bushel of grain. This resulted in a great wave of interest in poultry production. With grain at the December, 1924, farm prices, and with eggs at the average farm price of 1924, it would require 4.1 dozen eggs to buy a bushel of grain.

The favorable ratio for the poultrymen for the years 1921 to 1923 could not be expected to continue, nor can the unfavorable ratio of the early part of 1925 be expected to continue. The present high prices for corn and wheat will tend to check the undue expansion of the poultry business, which was taking place.

RATIO OF PRICES OF EGGS AND POULTRY TO GRAIN AT FARM PRICES FOR THE UNITED STATES

	Dozen of eggs required to buy 1 bushel of grain (½ wheat and ½ corn)	Pounds of poultry required to buy 1 bushel of grain (½ wheat and ½ corn)
Average 15 years	3.7	6.7
1910	3.6	6.9
1911	3.7	6.7
1912	3.6	7.4
1913	3.3	6.0
1914	3.5	6.5
1915	4.2	7.8
1916	3.9	7.3
1917	5.1	10.3
1918	4.5	8.5
1919	4.2	7.8
1920	3.8	7.2
1921	2.6	4.2
1922	2.8	4.2
1923	3.0	4.7
1924	3.3	5.2

The number of chickens in the United States in 1910 was 280 million. By 1920 the number had increased to 360 million, or an increase of 29 per cent in ten years. On January 1, 1924, there were 475 million chickens or an increase of 32 per cent in four years.

POPULATION AND NUMBER OF CHICKENS ON FARMS IN THE UNITED STATES

	Population in millions	Number of chickens in millions	Number of chickens per capita
1900	76	234	3.1
1910	92	280	3.0
1920	106	360	3.4
1921	108	358	3.3
1922	109	409	3.8
1923	111	425	3.8
1924	113	475	4.2
1925	115	....	......

HOGS

From November, 1920, until December, 1922, corn and hogs were both very cheap, but corn was low compared with hogs. This resulted in an increase of 22 per cent in the number of hogs. For the past two years corn has been high compared with hogs and is now extremely high. The result has been rapid marketing and decreased breeding of hogs. For the two years ending with January 1, 1925, the number of hogs on farms decreased 21 per cent. The decrease will no doubt continue for another year as corn is so high that breeding will be decreased. Presumably by next fall, hogs will be high compared with corn. The outlook for the hog producer for next fall and probably for the following year is good.

Most of the hogs in New York are produced on by-products, the value of which does not always vary with corn. The advantages of raising pork for home use are likely to be greater than usual.

NUMBER OF HOGS ON FARMS IN THE UNITED STATES, ON JANUARY 1st

Year	Number
1911	66,000,000
1912	65,000,000
1913	61,000,000
1914	59,000,000
1915	65,000,000
1916	68,000,000
1917	68,000,000
1918	71,000,000
1919	75,000,000
1920	59,000,000
1921	56,000,000
1922	58,000,000
1923	68,000,000
1924	66,000,000
1925	54,000,000

SHEEP AND WOOL

Recent reports from the Departments of Agriculture and Commerce give the number of sheep in the world before the war as 650 million, and the number for the most recent year for which figures are available as 570 million, or a decrease of 12 per cent. The average production of wool in the world for the five years 1909-1913 is given as 3,200,000,000 pounds. The production in 1923 was 2,600,000,000 pounds[1], or a decrease of 19 per cent.

Owing to the ravages of the boll-weevil, the cotton crop of the world is considerably less than pre-war.[2]

Cotton production 1909-1913	24,000,000 bales
1922	19,000,000 "
1923	19,000,000 "
1924	23,000,000 "

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[1] U. S. Dept. Commerce, Trade Information Bul. 301, January, 1925.

[2] U. S. Dept. Agr. Foreign Crops and Markets, Vol. 9, No. 27, p. 702, December 31, 1924.

The high prices of cotton have stimulated production in India and Brazil so that their present production is about a million bales above pre-war. The acreage in western Texas, and Oklahoma has been greatly increased. In these states, the weevil does less damage, but the damage from drouth is serious.

The shortage of cotton and wool has caused the high prices of the past three years. Production is increasing and the shortage will probably be made up. However, it is probable that the presence of the boll-weevil will maintain a somewhat higher average level of prices than formerly.

INDEX NUMBERS OF PRICES PAID TO FARMERS—1910-1914 = 100

	United States			New York		
Year	Sheep	Lambs	Wool	Sheep	Lambs	Wool
1910	114	108	116	114	109	119
1911	90	89	89	87	85	90
1912	93	94	101	91	94	100
1913	99	102	94	102	103	90
1914	105	106	99	106	108	95
1915	115	116	126	113	115	129
1916	138	138	155	135	138	157
1917	207	206	265	204	203	252
1918	239	236	325	233	236	314
1919	209	219	287	214	223	267
1920	184	201	214	193	214	200
1921	101	121	95	108	140	95
1922	131	164	163	118	169	143
1923	145	177	212	131	184	195
1924	148	181	210	136	187	200

More erratic prices are practically certain because the weevil sometimes causes severe injury, and in some years does little damage. Demand is also erratic because of the violent changes in industrial conditions in the United States as well as in other countries, due to readjustments following the war.

When a large crop happens to come at a time of serious unemployment, prices of wool and cotton will be very low. This unfavorable combination of circumstances occurred for the crop year 1920. When there is full employment and serious weevil damage, prices will be very high. This occurred for the crop of 1922.

The tariff on wool keeps prices above the world level. From 1912 to 1922, the number of sheep in the United States decreased from 51 millions to 36 millions. In the past three years, the number has increased to 39 millions on January 1, 1925.

Apparently there will be several years before an excessive supply of wool will be produced. A period of serious unemployment at any time may seriously reduce prices.

Lambs are such a choice meat that the demand for them is very high because wages are so high and other foods so cheap. It is not to be expected that lambs can retain such a favorable position when the price of food becomes adjusted to wage rates, and when farmers cease to expand the sheep industry and sell all the surplus lambs.

The outlook for sheep production for this year is good. It is, however, not to be expected that the profits from sheep production can permanently remain so much better than are the returns from beef cattle. Judging by the beef cattle cycle, it would not be surprising if the relative profits would be reversed in six to eight years.

HORSES

The number of horses and mules on farms January 1, 1919, was 26,400,000. Since that time the number has been decreasing and on January 1, 1925, there were 23,000,000. The number in 1919 was too high because high prices for horses and mules had resulted in over-production. The use of automobile, trucks, and tractors has accentuated the over-production.

A farm truck or tractor usually replaces about two horses. The present number of trucks and tractors on farms probably replace about one to two million horses. One-third of the farmers have automobiles which probably replace even more horses. Furthermore, the use of trucks in cities decreases the number of colts needed on farms to supply city demand. No very accurate estimate can be made of the number of horses required to supply present needs, but evidently the number of mature horses is still too large. The ratio of the price of horses to the raw materials out of which a horse is made (hay, oats, etc.) on January 1, 1925, was the lowest in the United States since figures are available except for the year 1895. When the normal ratio of horses to horse feed is represented by 100, the ratio on January 1, 1925, was 68.

The number of horses now being raised is undoubtedly too few for future needs. When old horses disappear, horses will again be high and, judging by past experiences, will reach a point where over twice the present amount of feed will be required to buy a horse. Few horses are raised in New York State except at the peak of prices, but the cycles of high and low prices are important to the man who buys horses as well as to the man who raises them. At the present time, it pays to be very critcal as to which horses to carry over winter. If young horses are purchased, they are likely to be on hand when horses are high in price. If old ones are bought they may have to be replaced when horses are high in price.

ADJUSTING AGRICULTURE TO PRICES

Figure 1 shows the price of many commodities at wholesale during the Civil War and World War periods. The curve of prices following the World War is very similar to the curves of prices following the Civil War, the War of 1812, and the Napoleonic Wars in Europe. The curves represent changes in prices due to the re-establishment of equilibrium of gold supplies in various countries and the establishment of an equilibrium between other commodities and gold. Just now, prices are rising and promise to rise more than they did in 1923, but regardless of how high they rise this year or whether they remain high for a year or two, there is a strong presumption that the tendency over a series of years will be downward. For this reason the safe procedure is:

1. To exercise care in buying anything that is much above its pre-war price unless it will pay for itself quickly.
2. Since labor remains high when prices fall, the use of labor-saving machines is very important, but such machines are themselves high in price so that they should pay for themselves quickly.
3. Since labor is high and scarce, orderliness and timeliness in work are of unusual importance. The repair of machinery in winter, the efficient use of rainy days, driving of more horses per man are some of the means used by farmers for saving time.

4. Since food as sold by farmers is very cheap compared with purchased food, the raising of products for home use is more important than formerly. Better gardens, home butchering, home canning, and the like may save more dollars than the same amount of time would earn, if spent in raising cheap food to sell.

5. Many farmers in New York State are retailing their products, taking them direct to wholesalers in cities, or are selling to city persons who come to the farm with trucks or autos. The wide discrepancy between farm prices and retail prices in cities is causing a rapid increase in these practices.

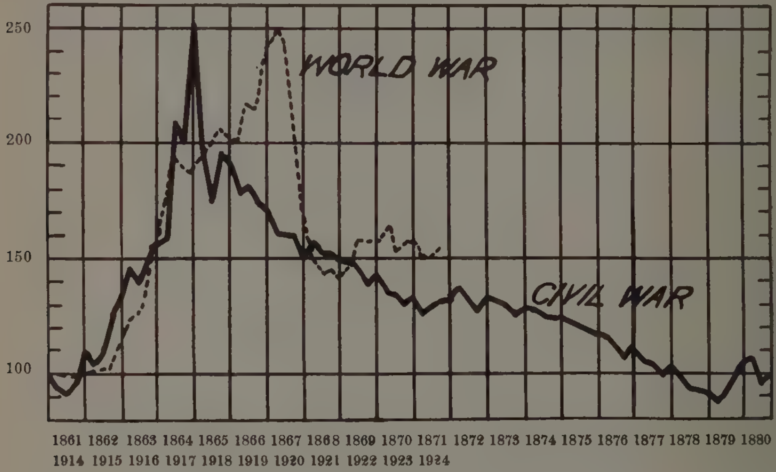

FIG. 1. WHOLESALE PRICES DURING THE CIVIL WAR AND WORLD WAR PERIODS (FOR THE CIVIL WAR 1856 TO 1860 = 100, AND FOR THE WORLD WAR 1910 TO 1914 = 100)

Following the World War, prices did not fall so soon as after the Civil War, but they fell more precipitously and fell farther.

Thus far the prices of the World War and Civil War periods have shown considerable similarity. Will this similarity continue?

6. Because of the dangers of violent price fluctuations and the possibility of periods of industrial depression all debts that cannot be paid should, so far as possible, be converted into long-time mortgages, such as land bank mortgages.

7. At the present time it is very difficult to sell a farm. For this reason, it is often possible to buy a farm that must be sold at a price so low as to make it a very attractive bargain for a man who wishes to start farming.

G. F. WARREN and F. A. PEARSON

DISTRIBUTION OF UPSTATE NEW YORK POTATOES*

During the 1921-1922 shipping season, the carload shipments of New York State potatoes totaled 18,963 or approximately 33 per cent of the total estimated production of the State. During the 1922-1923 season, the carload shipments of New York State potatoes totaled 19,233 or approximately 31 per cent of the total estimated production of the State.

Long Island potatoes in carload shipments totaled 4,838 for the 1921-1922 season and 7,191 for the 1922-1923 season. New York City and the Metropolitan district in general, is the primary market for Long Island potatoes, but this is by no means true of upstate New York potatoes. Data collected by the writer show that 6,433 carloads of upstate New York potatoes went to 449 destinations in 21 states and the District of Columbia during the 1921-1922 season; during the 1922-1923 season, 4,789 carloads of upstate New York potatoes went to 347 destinations in 16 states and the District of Columbia and Canada (Table 1.).

TABLE 1.—DESTINATIONS OF UPSTATE NEW YORK POTATOES, CARLOADS OF 600 BUSHELS—SEASONS 1921-1922 AND 1922-23

Cities Receiving 35 Or More Carloads

Season 1921-22			Season 1922-23		
City and state	Number of cars	Per cent of total	City and state	Number of cars	Per cent of total
Pittsburgh, Pa.	775	12	New York, N. Y.	817	17.1
New York, N. Y.	602	9.4	Brooklyn, N. Y.	670	14.0
Cleveland, O.	532	8.3	Newark, N. J.	275	5.7
Philadelphia, Pa.	495	7.7	Cleveland, O.	259	5.4
Washington, D. C.	433	6.7	Philadelphia, Pa.	219	4.6
Newark, N. J.	334	5.2	Pittsburgh, Pa.	183	3.8
Baltimore, Md.	272	4.2	Jersey City, N. J.	174	3.6
Brooklyn, N. Y.	241	3.7	Scranton, Pa.	123	2.6
Youngstown, O.	159	2.5	Baltimore, Md.	115	2.4
Jersey City, N. J.	131	2.0	Schenectady, N. Y.	69	1.5
Akron, O.	90	1.4	Bridgeport, Conn.	68	1.4
Clarksburg, W. Va.	86	1.3	Burlington, Vt.	49	1.0
Richmond, Va.	85	1.3	Paterson, N. J.	49	1.0
Jacksonville, Fla.	68	1.1	Washington, D. C.	48	1.0
Albany, N. Y.	55	.9	Jacksonville, Fla.	39	.8
Wheeling, W. Va.	51	.8	Troy, N. Y.	38	.8
Harrisburg, Pa.	44	.7	Hartford, Conn.	38	.8
Indianapolis, Ind.	42	.65			
Elizabeth, N. J.	41	.65			
Atlanta, Ga.	38	.6			
Schenectady, N. Y.	36	.55			
428 Miscellaneous destinations	1823	28.35	336 Miscellaneous destinations	1556	32.5
Total	6433	100	Total	4789	100

It will be noted from Table 1 that Pittsburgh, Pa., absorbed 173 more carloads of these potatoes during the 1921-1922 season than New York City, and that Cleveland, O., Philadelphia, Pa., and Washington, D. C., were markets of approximately equal importance with New York City.

During the 1922-1923 season, New York City was the destination receiving the largest number of carloads of these potatoes, but Brooklyn, N. Y., Newark, N. J., Cleveland, O., Philadelphia, Pa., and Pittsburgh, Pa., were also important markets.

The distribution of these potatoes by states for the two seasons is shown in Table 2.

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*These data are from studies carried on by the Department of Agricultural Economics and Farm Management, New York State College of Agriculture, in cooperation with the Bureau of Agricultural Economics, United States Department of Agriculture.

TABLE 2.—DISTRIBUTION OF UPSTATE NEW YORK POTATOES—CARLOADS OF 600 BUSHELS—SEASONS 1921-22 AND 1922-23

Season 1921-22			
State	Number of carloads	Per cent of total	Number of destinations
Pennsylvania	1636	25.43	100
New York	1332	20.71	95
Ohio	1040	16.17	64
New Jersey	842	13.09	59
District of Columbia	437	6.79	2
Maryland	311	4.83	8
West Virginia	215	3.34	30
Virginia	181	2.81	21
North Carolina	127	1.97	25
Florida	71	1.11	4
South Carolina	67	1.04	8
Georgia	60	.93	7
Indiana	45	.70	4
Connecticut	34	.53	8
Massachusetts	11	.17	3
Alabama	8	.12	2
Kentucky	7	.11	2
Delaware	3	.05	2
New Hampshire	2	.03	2
Vermont	2	.03	1
Tennessee	1	.02	1
Maine	1	.02	1
Totals	6433	100	449

Season 1922-23			
State	Number of carloads	Per cent of total	Number of destinations
New York	2205	46.03	117
New Jersey	721	15.06	48
Pennsylvania	731	15.26	74
Ohio	316	6.60	15
Connecticut	194	4.05	14
Massachusetts	142	2.97	20
Maryland	121	2.53	4
Vermont	74	1.55	9
West Virginia	55	1.15	10
District of Columbia	48	1.00	1
Florida	43	.90	3
North Carolina	40	.84	9
Rhode Island	37	.77	4
Virginia	22	.46	6
Georgia	15	.31	2
New Hampshire	13	.27	5
South Carolina	11	.23	5
Canada	1	.02	1
Totals	4789	100	347

During the 1921-1922 season, a considerable number of carloads went west and south of New York state. During the 1922-1923 season, in sharp contrast with the previous season, only a relatively small number of carloads went to southern and western points, while a large number went to eastern destinations. (Table 3.)

TABLE 3.—PERCENTAGE OF TOTAL SHIPMENTS OF UPSTATE NEW YORK POTATOES TO EAST, WEST AND SOUTH—SEASONS 1921-22 AND 1922-23

	Seasons 1921-22		Seasons 1922-23	
	Number cars	Per cent of total	Number cars	Per cent of total
East	3860	60	4116	85.96
West	1085	16.87	316	6.60
South	1488	23.13	357	7.44
Total	6433	100.00	4789	100.00

In this table all the territory east of the Ohio-Pennsylvania line and north of the Mason and Dixon line, has been classified as "east," all territory west thereof as "west" and all territory south of the Mason and Dixon line as "south."

This shift in primary destinations from west to east illustrates the competitive conditions which New York shippers are obliged to meet.

Because of its location, Maine ships its potatoes south and west. In a normal year Maine will very largely supply the New England states and contribute substantially to New York City and the Hudson Valley cities. Upstate New York potatoes usually sell for less than Maine potatoes, and with a normal crop in Maine are subject to severe competition in the East. In the West, New York competes directly with Michigan and Wisconsin for middle-western and southern markets. These two states are in turn subject to severe competition from the more westerly potato areas in Minnesota, North and South Dakota, Colorado and Idaho. These last-named states, by shipping to the middle-west markets have a tendency to force Wisconsin and Michigan potatoes farther east into competition with New York, Pennsylvania, or even Maine potatoes.

TABLE 4.—FREIGHT RATES FROM COMPETING AREAS TO TERMINAL POINTS (Carload rate, in cents, per 100 pounds, March, 1923)

From	To			
	New York	Pittsburgh	Cleveland	Chicago
Presque Isle, Maine	55.5	60.5	64.0	78.0
Cadillac, Michigan	60.0	38.0	33.5	32.0
Waupaca, Wisconsin	67.0	44.5	40.0	20.5
Moorehead, Minnesota	82.5	60.0	57.5	41.5
Fargo, North Dakota	82.5	60.0	57.5	41.5
Avoca, New York	28.5	28.0	27.0	39.5
Riverhead, Long Island	17.0	44.0	50.0	66.5
Chateaugay, New York	34.0	47.5	40.0	......

In Table 4 are shown the freight rates in force in 1923 from competing potato areas to certain terminal markets. The western New York area had practically the same freight rate to New York City, Pittsburgh, and Cleveland. On the basis of freight rates, however, Pittsburgh and Cleveland markets were attractive markets for Wisconsin and Michigan potatoes and these competed strongly with upstate New York stock. On the other hand, Boston and New York City were the logical destinations for Maine and Long Island potatoes.

In 1921 Maine had a total crop of 38,442,000 bushels, which was approximately 63 per cent larger than its average for the eight-year period 1915-1922 inclusive. This large crop contributed substantially to an over-supply in New York City and other eastern markets, and forced upstate New York shippers to seek other outlets for their potatoes. During the same year, New York had practically an average crop, whereas the crops for the states of Michigan, Wisconsin, and Minnesota were about 6.5 per cent below the eight-year average for those states. The result was the distribution of 40 per cent of the potatoes covered in this study to southern and western points.

The season of 1922-1923 found the situation practically reversed. Maine had a crop of only 21,600,000 bushels, which was 13.4 per cent below the eight-year average; New York had a crop 12.7 per cent above the eight-year average; while Michigan, Wisconsin, and Minnesota had crops 41.6 per cent above an eight-year average for those states. The result was the shipment of the bulk of the potatoes covered by this study to eastern destinations with only a small proportion going to the west and south. A study of Table 4 shows the advantage to New York shippers of meeting competition from states to the west in New York City rather than Cleveland or Pittsburgh.

Such shifts in outlets are of serious concern to potato shippers and growers. Wholesale potato merchandising is carried on very largely through the medium of the telephone and telegraph. In a business of this nature, knowledge of the trade necessarily plays an important role and the establishment of reliable trade connections is a long and expensive process. Such violent changes in production as were experienced during these two seasons force the severance of old business ties and the establishment of new and untried market connections, which may have little permanent value. Loss and dissatisfaction inevitably result. Such a situation can hardly fail to make the marketing process more expensive and the rendering of efficient marketing services more difficult.

M. P. RASMUSSEN

SOME FACTS ABOUT THE NEW YORK MILK MARKET

The New York milk market includes, besides the five boroughs of Greater New York, Yonkers and Mt. Vernon (N. Y.), Jersey City, Hoboken, Newark, Paterson and Elizabeth (N. J.) and the towns between these places. The population of this whole district in 1920 was given as 7,400,000.

Records of the quantities of milk and cream delivered at this market have been published monthly by the "The Milk Reporter" for many years. These statistics are compiled from reports furnished by the railroads. Practically all the milk and cream received is delivered by rail so that the figures reported are quite complete. No milk or cream is reshipped to other places except that which is used on the ships sailing from the Port of New York or on the dining cars of outgoing trains. These uses account for a very small percentage of the total quantity of milk and cream delivered at the metropolitan terminals. Some milk and much cream is used in the manufacture of ice cream in the metropolitan cities but there is very little manufacturing of other dairy products.

The receipts of milk have increased every year since the records have been kept. In 1892 the daily average quantity of milk delivered in the New York market was about 20,000 forty quart cans. The daily average for 1924 was about 82,000 cans, or a little more than four times the quantity delivered thirty-three years ago.

The receipts of cream have, on the whole, increased more than the receipts of milk, but have been more irregular. In 1892 the daily average receipts of cream were 676 forty-quart cans and in 1924 the daily average was about 4,750 cans, or seven times as much. Decreases occurred in 1896 and 1897, in 1907 and 1908, and in 1917 and 1918.

Milk and cream receipts have increased faster than population. From 1900 to 1910 the population of the metropolitan district increased 40 per cent, milk receipts increased 68 per cent and cream receipts 93 per cent. From 1910 to 1920 population increased 20 per cent, milk receipts 54 per cent and cream receipts 56 per cent. The approximate consumption of milk increased from 85 quarts per capita in 1900 to 132 quarts per capita in 1920. The approximate consumption of cream increased from 4 quarts per capita in 1900 to 7 quarts in 1920.

The improved quality of the milk supply has probably been as important a factor as any in stimulating greater use of milk and

TABLE 1.—POPULATION AND ANNUAL CONSUMPTION OF MILK AND CREAM IN THE NEW YORK MARKET

Year	Approximate population (thousands)	Forty quart cans of milk (thousands)	Quarts of milk per capita	Forty quart cans of cream* (thousands)	Quarts of cream per capita
1900	4,426	9,389	85	423	3.8
1910	6,190	15,820	102	816	5.3
1920	7,399	24,395	132	1270	6.9

*Plain condensed milk shipped in forty-quart cans is included with cream.

cream. New York City is now said to have the best milk supply of any large city in the world. The milk delivered by the larger distributors, at least, is uniformly pure, fresh and of good keeping quality. This was not true of the milk supply twenty years ago.

Various demonstrations and other publicity have convinced a large proportion of the people of the value of milk as a food. Milk is a cheaper source of animal protein and energy than meat. Recognition of its high food value has probably resulted in the substitution of milk (and cream) for meat to a considerable extent. Prohibition has probably encouraged the use of milk as a drink during the last few years. The remarkable expansion of the ice cream business is due, in part, to the same cause and accounts for a large share of the increase in cream receipts since 1918.

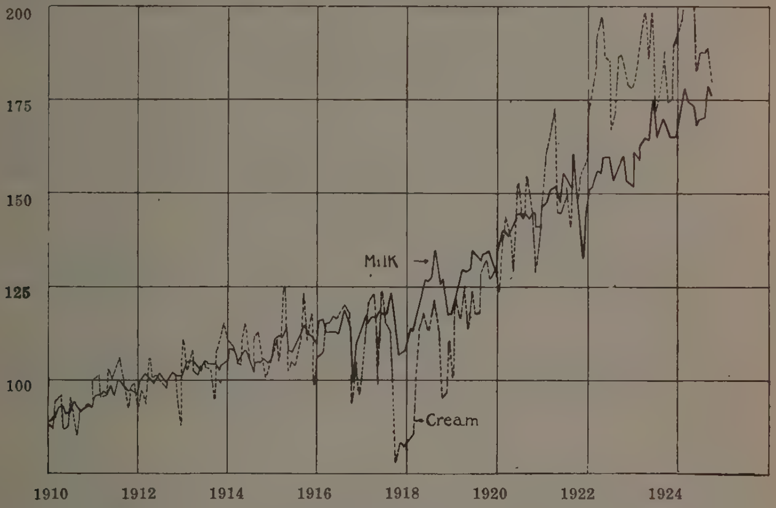

Figure 1.—Index Numbers of Monthly Receipts of Milk and Cream at the New York Market—Same Months, 1910-1914 = 100

It is noticeable that the cream receipts fluctuate much more than the milk receipts. The demand for cream is influenced more by economic conditions. The decided recession in the use of cream in 1917, 1918 and 1919 was probably due to the lag of wages, as prices and the cost of living were rising. The reverse of this condition has prevailed since 1920, wages remaining at a high level while prices and the cost of living declined. The average weekly wages of factory workers in 1924 would buy about one-third more milk at retail than in 1914. The increased purchasing power of the people accounts very largely for the high level of cream consumption since 1920.

Apparently we are now on the crest of a bulge in demand, due to the unusually prosperous conditions in the cities. For this reason it would be surprising if the increase in the milk and cream receipts for the next five years were as great as the increase during the last five years. However, the long time trend is decidedly upward and is likely to continue in this direction for many years.

LELAND SPENCER

COOPERATIVE FIRE INSURANCE COMPANIES IN NEW YORK

On January 1, 1923, there were 166 cooperative fire insuranc companies in New York State. At that date these companies had 415,132 policies and $787,096,293 of insurance in force. Of the total insurance on farm property in the State, it is estimated tha 90 per cent is written by cooperative companies.

TABLE 1.—COOPERATIVE FIRE INSURANCE COMPANIES IN OPERATION, JANUARY 1, 1923

Year organized	Assessment	Advance-premium
1853-1862	29	1*
1863-1872	2	0
1873-1882	41	1*
1883-1892	26	5
1893-1902	21	21
1903-1912	8	2
1913-1922	8	1
Total	135	31

*Originally organized as assessment companies.

Cooperative farm fire insurance companies were organized in response to a real need. Before they were organized, protection was uncertain, because of the instability of some of the companie then writing farm insurance and because technicalities in the policies enabled them to evade the payment of losses.

Cooperative companies cannot fail to pay losses. In case of deficiency, an assessment must be made by the directors. Cooperative farm fire insurance companies are organized wholly for th benefit of their members. There is no temptation to avoid the payment of losses because of technicalities.

When there is any question as to the interpretation of a policy the member suffering the loss is usually given the benefit of th doubt.

TABLE 2.—DISTRIBUTION OF LOSSES AND EXPENSES OF 166 COOPERATIVE FIRE INSURANCE COMPANIES FOR 13 YEARS, 1910-192

	69 County Assessment Co's			66 Town Assessment Co's			31 Advance-premium Co		
	Costs covering an aggregate of $4,252,690,000 worth of insurance for 13-yr. period, 1910-1922	Average cost per year for $1,000 insurance	Per cent of cost	Costs covering an aggregate of $722,842,000 worth of insurance for 13-year period, 1910-1922	Average cost per year for $1,000 insurance	Per cent of cost	Costs covering an aggregate of $2,156,967,000 worth of insurance for 13-year period, 1910-1922	Average cost per year for $1,000 insurance	Per cent of cost
Total losses paid	$9,633,013	$2.26	80.9	$1,520,682	2.10	84.8	$6,821,409	3.16	61
Officers' salaries	629,635	.15	5.3	57,217	.08	3.2	1,070,835	.50	9
Directors' fees	290,071	.07	2.4	46,439	.07	2.6	----	----	----
Office expenses, etc.	159,941	.04	1.4	11,516	.01	.6	----	----	----
Expenses of adjustment	144,758	.03	1.1	14,506	.02	.8	----	----	----
Application fees	637,295	.15	5.4	87,912	.12	4.8	----	----	----
Commissions	----	----	----	----	----	----	2,168,308	1.00	19
All other disbursements (rent, interest, etc.)	413,727	.10	3.5	55,652	.08	3.2	1,078,891	.50	9
Total Costs	$11,908,440	$2.80	100.0	$1,793,924	2.48	100.0	$11,139,443	5.16*	100

*Does not include a reserve of $0.71 per $1,000 insurance accumulated during the period.

There are two general types of cooperative fire insurance companies now in operation in New York State, assessment companies and advance-premium companies. Assessment companies assess their members at the end of each year for losses and expenses. Large reserves are not required since these companies have excellent credit and can borrow to pay losses as they occur. Assessment companies now active in this state have on the average operated for forty-two years.

Advance-premium companies collect their premiums in advance on the insurance carried. While cooperative in form, these companies operate in much the same way as do stock companies, except that they have no capital stock on which to pay dividends.

Fire losses in cooperative assessment companies are lower than in other types of companies, because the risks are more carefully selected. The low cost encourages farmers to use these companies without being urged, and since no agents are required to solicit insurance, this results in a still lower cost. Savings are also made on management, clerical salaries, and on other overhead costs.

TABLE 3.—AMOUNT AND CAUSES OF 1667 LOSSES ON FARM PROPERTY, FIVE YEARS, 1918-1922

Causes	Per cent of total number
Unknown	37
Lightning	21
Chimney	11
Spontaneous combustion	3
Incendiary	3
Lantern	2
Miscellaneous	23
Total	100

TABLE 4.—COMPARISON OF LOSSES, WITH COUNTY VALUATIONS OF FARM LAND, 62 COUNTY ASSESSMENT COMPANIES, THIRTEEN YEARS, 1910-1922

Number of companies	Value of land per acre	Cost per year for $1,000 insurance
8	$103 and over	$1.97
13	$73-102	2.05
26	43- 72	2.24
15	26- 42	2.68

Losses are greater in counties having low land values than in those having high land values. This condition may be attributed to differences in types of farming, to greater moral hazards, to greater carelessness, and to negligence on the part of the property owners in these poorer regions. In times of depression, losses from fires show considerable increase.

The costs in 135 assessment companies for 13 years averaged $2.75 per year for $1,000 of insurance. The costs varied from $0.42 to $8.29 in different associations. By applying the methods used in the best associations, those with high costs may greatly improve their business.

R. W. Bartlett

FEDERAL LAND BANKS

On December 31, 1924, the Federal Land Banks of the United States had mortgage loans amounting to almost one billion dollars. These cooperative banks are owned by the borrowers. The Federal Government furnished money to establish the banks, but nearly all of this has been repaid. On December 31, the borrowers owned 97 per cent of the stock and the Federal Government owned 3 per cent. Ninety-seven per cent of the profits of the banks ultimately go to the borrowers, and three per cent to the Federal Government. The more good loans the banks make, the larger the dividends which the borrowers receive. The losses from bad loans and expenses of collecting from careless farmers are borne by the other borrowers thru a reduction of dividends.

Some persons have thought that the money loaned by these banks is Federal money. The present money invested by the Federal Government amounts to less than two-tenths of one per cent of the total resources. Nearly all of the money is furnished by the sale of bonds to the investing public.

The banks came thru the agricultural depression in very good condition. The Springfield bank which serves New England, New York and New Jersey is one of the smaller banks. In 1924, it had thirty-six millions dollars of loans outstanding.

The banks have succeeded because they have been of service to investors and borrowers. In order to serve investors they must be so conducted that there can never be any question about the value of the bonds. Only by this means can they serve borrowers, because money at low interest rates for long time loans cannot be obtained except on the best security.

The Springfield Bank has kept a record of prices at which mortgaged farms have been sold. On the average the appraised values have been almost identical with the sale values. Many farmers need more money than can be loaned by a land bank. This need can be supplied by a second mortgage given to the seller of the farm, or to some local investor who, because of his acquaintance with the farmer and constant knowledge of local conditions, can with safety lend more than a land bank can legally or safely lend.

G. F. WARREN

TAXES

When prices are rising the pay of teachers and other public employees lags behind the advance in prices, and taxes are easy to pay. High prices stimulate public improvements. When prices fall, wages and salaries decline less rapidly so that taxes remain high.

When taxes per acre on farms in the United States for the year 1913-1914 are represented by 100, taxes for the year 1921-1922 are represented by 226.

On farms in Chenango County, New York, the receipts less business expenses other than taxes amounted to $795 per farm in 1921. Of this amount $161, or 20 per cent, was taken for real estate taxes, leaving $634 to reimburse the farmer for his year's labor, for the labor of his family, for the payment of interest on debts, and pay for the use of the capital invested by the farmer.

Taxes on some New York farms on which cost accounts are kept cooperatively with the Bureau of Agricultural Economics of the United States Department of Agriculture in 1923 were just double the taxes paid in 1914.

INCOME AND TAXES ON SOME NIAGARA COUNTY FRUIT FARMS

Year	Cash receipts less cash expenses other than taxes*	Taxes per acre	Net income per acre	Index number of taxes 1913 = 100
1913	$31.39	$0.90	$30.49	100
1914	8.31	.89	7.42	99
1915	12.98	1.14	11.84	127
1916	18.88	1.15	17.73	128
1917	21.50	.92	20.58	102
1918	25.27	1.13	24.14	126
1919	24.36	1.69	22.67	188
1920	20.27	2.04	18.23	227
1921	18.63	1.82	16.81	202
1922	21.53	2.02	19.51	224
1923	14.18	2.30	11.88	256

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*Increased value directly due to expense for improvements was deducted from cash expenses in figuring cash costs.

The table shows the results for some Niagara County fruit farms. The column labeled net income is the amount left to pay the farmer for his labor, for the labor of members of the family, and for use of the land. The net income is below the pre-war amount. When real estate taxes in 1913 are represented by 100, taxes in 1923 were represented by 256.

The expense of maintaining schools is approximately the same for a given area regardless of land values, as children can walk no further in a poor hilly district than in a rich level country. This makes the tax situation very serious in poor regions. In a hill region of southern New York where about one-half of the farms are uninhabited, taxes were obtained for 71 farms in 1923. They averaged 3.4 per cent of the full market value of the farms. It would be almost impossible to sell any of these farms at what was called the full market value. It would also be very difficult if not impossible to cash rent them for enough to pay the taxes.

FREIGHT RATES

The following freight rates were furnished by F. W. Brown of the Department of Farms and Markets.

Freight Rates, 1913 and 1925

Product	From	To	Rate per 100 pounds 1913 Cents	 1925 Cents	Index Number 1913 = 100
Apples	Rochester	New York City	15	28.5	190
		Chicago	21	39.5	188
		Pittsburgh	14	27	193
Potatoes	Avoca	New York City	15	28.5	190
		Pittsburgh	14	27	193
Hay	Auburn	New York City	15	28.5	190
	Watertown	New York City	18	34	189
Grapes	Penn Yan	New York City	30	56.5	188
		Chicago	46	87	189
		Pittsburgh	31	64.5	208
	Westfield	Chicago	39	83	213
Lettuce	Fulton & Elba	New York City	18	34	189
		Chicago	25	49	196
		Pittsburgh	16	38	238

AGRICULTURAL EXPORTS

During the World War period, the exports of dairy products, grains, and meats increased very decidedly. The quantity of all agricultural exports (except cotton) rose to two and one-half times the pre-war amount. Prices were more than double pre-war so that the value of the products was about five times pre-war. Exports declined very rapidly after the war, and were rapidly approaching the pre-war amount; but the short crops in Europe and credit extensioned increased the demand so that the exports for the past few months are high. European agriculture is recovering and it is to be expected that our exports will decrease in future years.

INDEX NUMBERS OF QUANTITY (NOT VALUE) OF AGRICULTURAL EXPORTS, EXCLUSIVE OF COTTON, FROM THE UNITED STATES[1] FOR YEARS ENDING ON JUNE 30, JULY, 1909, TO JULY, 1914 = 100

Year	Grain and their product	Meat	Dairy products	Fruit and vegetables	Total
1910	82	91	58	77	86
1911	85	104	93	92	92
1912	78	115	126	100	100
1913	143	97	120	134	119
1914	112	92	103	98	103
1915	301	126	302	133	189
1916	237	164	479	134	184
1917	217	164	716	127	182
1918	179	197	975	87	165
1919	272	287	1287	117	255
1920	218	185	1275	153	207
1921	329	154	524	137	212
1922	317	153	571	118	218
1923	246	169	406	129	182
1924	143	179	451	213	153
Dec., 1924	232	148	299	261	178

[1] Foreign Crops and Markets, Bureau of Agricultural Economics, U. S. Dept. Agr. Vol. 9, No. 10, p. 236, Sept. 8, 1924. Vol. 10, No. 4, p. 87, Jan. 28, 1925.

FARM ECONOMICS

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NEW YORK STATE COLLEGE OF AGRICULTURE,
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No. 22 March 21, 1925

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	146	86	118	197
1923	157	161	163	155	95	126	214
1924	153	152	146	166	77	83	218
Oct., 1923	156	159	150	143	85	106	218
November	155	155	149	151	87	97	218
December	154	154	153	157	92	93	220
Jan., 1924	154	153	153	163	100	92	219
February	155	156	153	165	102	91	218
March	153	152	151	162	95	91	222
April	151	149	144	156	94	84	218
May	150	148	141	154	88	76	217
June	148	146	141	156	83	70	214
July	150	147	137	164	70	69	214
August	153	151	144	170	58	72	216
September	152	152	145	170	53	79	221
October	155	155	143	169	53	80	217
November	156	157	146	178	58	90	218
December	160	159	152	190	67	101	223
Jan., 1925	163	165	160	201	77	96	223
February	164	166	157	203	80	98	220
March 1	....	....	159	....	....	....	....
March 1-13	....	167	....	204	....	....	....

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[1] Copyrighted by Irving Fisher. [2] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York Herald-Tribune. The data as published, are converted to the 1910-14 base by multiplying by 2.05. [3] Corresponding months 1910-1914 = 100. [4] Data furnished by the Department of Labor of New York State, June, 1914 = 100.

GENERAL BUSINESS

The volume of urban business continues to increase, but the improvement is not so rapid as has been expected. The index number of weekly earnings of New York factory workers, advanced from 214 in the summer of 1924 to 220 in February. The index numbers of unfilled orders of the United States Steel Corporation rose from 69 for July, 1924, to 101 in December, 1924, and since then have receded slightly.

Wholesale prices as indicated by Fisher's index number continue to advance, but there has been a decrease in the rapidity of the rise. Harvard's index number of ten basic commodities is 7 points above December, but one point below the January level.

Index numbers of interest rates on 4-6 months commercial paper, which were 53 per cent of the pre-war level last October, have risen to 80. Apparently rising prices and increasing business conditions are affecting the money market.

The stock market rose very rapidly for six months, but has shown no material rise recently. Apparently the increase in business is somewhat checked, but expansion is still taking place in many things. Judging by the stock market, a considerable further increase in business activity would be expected. However, it may be that a greater business activity was anticipated than is going to occur.

FARM PRICES

Prices paid to farmers in the United States for food during February are one point below January, but are 29 points above May of last year. Food at retail is 11 points above May of last year. This indicates that prices paid to farmers can rise by a large amount and not have food at retail increase by a high percentage.

The Bureau of Labor now publishes an index number of non-agricultural products. This index number is given on page 243. In February, 1925, the index number was 67 per cent above pre-war. Prices for all farm products including cotton were 53 per cent above pre-war.

Prices paid to farmers in various States are given on page 246. Prices in the southern states are higher than in the northern states. Prices are also good in North Dakota where they are 66 per cent above pre-war. A year ago they were only 13 per cent above. Prices in the states that depend on livestock and livestock products are much lower. The February index number for New York was only 36 per cent above pre-war.

The grain rose in price until February, but fell rapidly in March. Potatoes, hay, beef cattle and horses continue to be very cheap. Hogs are steadily rising. Eggs have dropped decidedly.

Prices paid to farmers in New York during February for beans, wheat, chickens, lambs, and wool are higher than the general price level. Apples, milk and eggs are somewhat below the general price level. Potatoes and hay are both 12 per cent below pre-war prices. Since the major products of New York are to such a large extent made up of milk, eggs, potatoes, apples, and hay, the general index of prices is only 36 per cent above pre-war, whereas the general level of prices of all commodities is 64 per cent above pre-war, and earnings of factory workers are 120 per cent above pre-war.

G. F. Warren and F. A. Pearson

PRICES, 1910-14 = 100

Year	Non-Agricultural Products[1]	Farm Prices		Prices of Food in the United States		
		New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	105	97	99	101	99	103
1914	97	103	101	105	101	105
1915	101	100	101	106	104	104
1916	138	116	119	120	120	118
1917	182	170	180	180	165	151
1918	188	186	206	197	186	173
1919	199	206	215	210	205	192
1920	241	217	214	209	218	209
1921	167	144	119	128	143	158
1922	168	134	124	122	137	146
1923	171	142	137	122	143	151
1924	162	128	140	126	143	150
Jan., 1923	177	127	137	126	140	148
February	178	132	136	123	140	146
March	179	133	138	123	142	146
April	180	143	139	122	143	147
May	176	148	138	124	143	147
June	172	163	134	121	141	148
July	169	157	134	120	140	152
August	167	149	129	118	141	151
September	167	151	133	122	146	154
October	165	147	138	123	147	155
November	163	143	141	122	147	156
December	162	135	143	123	146	155
Jan., 1924	164	123	143	121	142	154
February	166	123	142	122	142	152
March	166	125	136	119	140	148
April	164	130	135	118	136	145
May	162	129	135	118	136	145
June	159	135	134	119	135	147
July	158	129	138	124	137	148
August	159	133	146	132	143	149
September	158	129	137	129	146	151
October	158	127	145	137	150	153
November	160	134	145	138	152	155
December	163	135	147	141	156	156
Jan., 1925	165	136	154	148	158	159
February	167	136	153	147	155	156

[1] United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices United States	 New York	Index Numbers United States	 New York
Corn, bu.	December	$1.056	$1.34	181	179
	January	1.120	1.35	192	188
	February	1.145	1.36	192	192
Oats, bu.	December	.506	.60	130	128
	January	.540	.63	140	140
	February	.534	.66	135	140
Wheat, bu.	December	1.411	1.53	164	156
	January	1.621	1.74	185	176
	February	1.698	1.88	190	188
Barley, bu.	December	.762	.91	126	121
	January	.824	.95	135	127
	February	.848	1.01	133	135
Rye, bu.	December	1.127	1.20	152	148
	January	1.262	1.26	177	162
	February	1.322	1.37	182	178
Buckwheat, bu.	December	1.046	1.01	147	140
	January	1.070	1.02	152	144
	February	1.122	1.10	158	153
Flaxseed, bu.	December	2.358	....	152	....
	January	2.718	....	168	....
	February	2.753	....	161	....
Beans, bu.	December	3.91	4.00	171	165
	January	4.08	4.10	181	175
	February	4.27	4.40	192	188
Cotton, lb.	December	.220	....	180	....
	January	.227	....	185	....
	February	.230	....	189	....
Hay, ton	December	12.69	13.80	103	90
	January	12.70	13.00	108	85
	February	12.83	13.40	107	88
Onions, bu.	December	1.54	1.24	152	151
	January	1.64	1.36	159	168
	February	1.94	1.52	172	171
Potatoes, bu.	December	.641	.56	106	88
	January	.702	.59	112	92
	February	.723	.61	110	88
Sweet potatoes, bu.	December	1.401	....	194	....
	January	1.455	....	185	....
	February	1.602	....	192	....
Apples, bu.	December	1.280	1.19	166	161
	January	1.450	1.20	150	148
	February	1.510	1.25	147	144
Horses, head	December	73.00	114.00	54	65
	January	73.00	110.00	53	64
	February	78.00	115.00	55	66

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	December	$.179	$.228	166	165
	January	.185	.243	173	179
	February	.191	.240	175	171
Eggs, doz.	December	.499	.63	166	154
	January	.486	.57	164	150
	February	.357	.48	136	150
Butter, lb.	December	.418	.48	148	141
	January	.413	.46	145	135
	February	.387	.45	142	136
Milk, 3.7% Pool price (Utica)	December	....	2.66	....	139
	January	....	2.665	....	140
	February	....	2.55	....	140
Milch cows, head	December	54.00	66.00	108	117
	January	54.81	70.00	116	130
	February	54.79	68.00	115	125
Beef cattle, cwt.	December	5.35	5.30	102	97
	January	5.63	5.40	112	103
	February	5.69	5.70	111	108
Veal calves, cwt.	December	7.84	11.40	113	130
	January	8.50	12.00	125	142
	February	8.87	11.50	131	137
Sheep, cwt.	December	6.84	5.80	157	134
	January	7.86	6.60	171	158
	February	8.41	7.00	185	166
Lambs, cwt.	December	10.96	11.90	193	193
	January	12.69	14.00	219	218
	February	13.13	13.60	221	213
Wool, lb.	December	.422	.45	244	214
	January	.428	.50	231	227
	February	.432	.51	234	232
Hogs, cwt.	December	8.39	10.00	125	136
	January	9.31	10.20	132	137
	February	9.62	10.50	135	140

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	December	37.00	137
	January	40.00	145
	February	39.30	140
Cottonseed meal, ton	December	52.50	157
	January	55.00	162
	February	54.40	158

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

1910-1914 = 100

	N. Y.	Ohio*	Iowa	N. D.	Ore.	Ga.	Texas
1910	101	103	98	108	107	110	108
1911	97	89	87	101	97	103	98
1912	101	101	102	102	96	86	92
1913	97	103	103	89	98	98	100
1914	103	105	109	98	102	91	95
1915	100	104	107	123	106	80	93
1916	116	120	120	126	114	117	120
1917	170	181	181	199	168	184	177
1918	186	201	202	221	191	242	220
1919	206	216	211	237	198	238	222
1920	217	210	187	240	195	257	217
1921	144	130	102	125	119	105	105
1922	134	127	106	111	119	147	132
1923	142	133	113	105	119	202	167
1924	128	134	103	122	....	202	166
1923							
January	127	133	118	102	125	190	161
February	132	134	112	108	120	200	164
March	133	133	111	108	123	215	173
April	143	134	111	113	119	211	175
May	148	139	113	117	123	191	165
June	163	140	112	109	127	190	158
July	157	131	110	102	127	191	163
August	149	132	108	97	116	181	162
September	151	129	114	99	115	190	153
October	147	129	113	105	114	210	166
November	143	130	114	104	116	221	177
December	135	129	114	103	109	233	186
1924							
January	123	128	113	111	111	244	191
February	123	130	113	113	110	238	185
March	125	128	111	117	108	211	171
April	130	130	110	113	106	220	167
May	129	130	112	111	109	212	164
June	135	127	111	110	113	201	165
July	129	125	119	125	119	199	166
August	133	133	130	129	133	203	175
September	129	137	128	118	130	170	148
October	127	145	136	136	....	179	153
November	134	144	134	139	142	174	155
December	135	148	138	147	140	171	154
1925							
January	136	....	147	167	155	175	158
February	136	....	143	166	152	176	160

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*Index number for Ohio were prepared by J. I. Falconer.

HAY AND GRAIN ON FARMS

The amount of wheat on farms is very low as compared with previous years. Apparently little wheat will be left at the end of the year. The amounts carried over are normally so small in proportion to the crop, that a slight change in the weather may more than offset variations in the stocks carried over. The acreage of wheat for next year probably will be increased sufficiently to offset any changes in carry-over, so that prices for next year will be primarily dependent on the weather.

STOCKS OF HAY AND GRAIN ON FARMS IN THE UNITED STATES ON MARCH 1 AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Crop	1923	1924	1925
Wheat (bushels)	156,000,000	138,000,000	114,000,000
Corn (bushels)	1,093,000,000	1,154,000,000	802,000,000
Oats (bushels)	421,000,000	447,000,000	550,000,000
Barley (bushels)	42,000,000	45,000,000	43,000,000
Hay (tons)	37,000,000	33,000,000	37,000,000
Hay, New York State (tons)	2,966,000	2,368,000	3,004,000

The amount of corn on farms is very small. The decrease in the number of hogs, together with the decrease in hog production, and the light weight at which hogs are being sold will doubtless more than compensate for the decreased carry-over of corn. The weather will, therefore, be the primary factor in determining next year's corn prices. The increased amount of oats on March 1, 1925, will also help to offset the shortage of corn.

The amount of hay on New York farms is much higher than last year. In many parts of the State, hay is so cheap that it would seem desirable to hold it over, in case there is barn room. It is, of course, impossible to foretell prices for next year, but if the barns are kept filled, there will surely be a year when they can be emptied to advantage.

G. F. WARREN AND F. A. PEARSON

CHICKENS

Figure 1 shows the pounds of grain a dozen eggs would buy from 1875 to date. This indicates that there is a tendency to move in cycles, nine years from peak to peak or from low to low. The curve is not so smooth as the curve for horses, hogs, and beef cattle, but is sufficiently definite to indicate the tendency for periods of over and under-production to last about four to five years.

The unfavorable ratio of egg prices to feed prices in the fall of 1924 appears to have had an influence on the number of chickens. The estimates of the United States Department of Agriculture indicate that the number of chickens decreased from 470 millions on January 1, 1924, to 427 millions on January 1, 1925, or a decrease of 9 per cent.

The ratio of prices of eggs to the price of grain for 15 years averaged 16.3. The ratio for February is 11.6 when allowance is made for season. Grain is so high that eggs are much less profitable than normal.

The purchasing power of Western fresh eggs in New York City is shown in Figure 2. It agrees very well with the ratio of egg prices to feed prices.

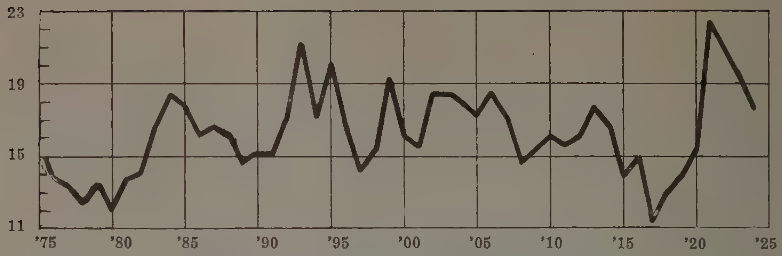

FIGURE 1. POUNDS OF GRAIN THAT A DOZEN EGGS WOULD BUY.

There is a tendency for eggs to rise in price compared with grain for about four to five years and to fall for about an equal time. The cycles are fairly regular, except for 1894, when the grain crops were very poor, and for 1899 when eggs were very high in the winter months.

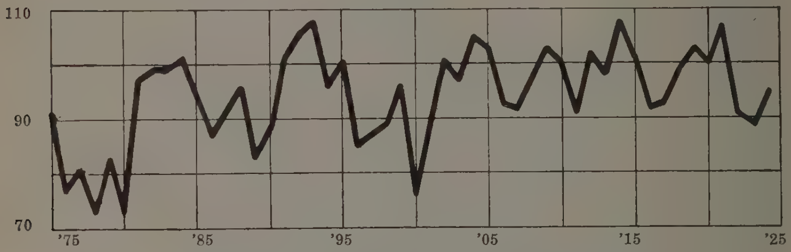

FIGURE 2. THE PURCHASING POWER OF EGGS.

Eggs have periods of high and low prices, each lasting about four and a half years.

POUNDS OF GRAIN THAT A DOZEN EGGS WOULD BUY AT FARM PRICES IN THE UNITED STATES*

Year	Pounds of grain	Year	Pounds of grain	Year	Pounds of grain	Year	Pounds of grain
1875	16.1	1888	16.1	1901	15.4	1914	16.6
1876	13.8	1889	14.6	1902	18.4	1915	13.8
1877	13.4	1890	15.1	1903	18.4	1916	14.9
1878	12.4	1891	15.1	1904	17.9	1917	11.3
1879	13.4	1892	17.1	1905	17.1	1918	12.9
1880	12.0	1893	21.1	1906	18.4	1919	13.8
1881	13.8	1894	17.1	1907	17.1	1920	15.3
1882	14.1	1895	19.9	1908	14.6	1921	22.4
1883	16.6	1896	16.6	1909	15.4	1922	20.8
1884	18.4	1897	14.1	1910	16.1	1923	19.3
1885	17.9	1898	15.4	1911	15.6	1924	17.6
1886	16.1	1899	19.3	1912	16.1		
1887	16.6	1900	16.1	1913	17.6		

Average 1910-1924, 163 pounds.

*The grain mixture used is one-half bushel of wheat and one-half bushel of corn. Data for 1910 and later years are average United States farm prices for the calendar year reported by the United States Department of Agriculture. Grain prices before 1910 are averages of the United States farm prices on December 1, for the year and previous year. Before 1910, prices of western fresh eggs at New York City are used, but are adjusted to the same ratio that farm prices of eggs bore to grain for the five years, 1910-1914. These probably represent farm ratios fairly well, but doubtless have less violent fluctuations.

G. F. Warren and F. A. Pearson

HORSES

The Department of Agriculture gives the number of horses and mules foaled per 1,000 horses. By comparing these figures with Census reports since 1890, it appears that the number of colts being foaled is not quite half enough to maintain the present supply of horses and mules. The present supply of these animals is more than is needed, but is not twice as great as is needed. This is further evidence of the probability of a shortage of horses that is likely to gradually develop, reaching the most acute shortage in about ten years.

G. F. WARREN and F. A. PEARSON

PERIODS OF OVER- AND UNDER-PRODUCTION OF SHEEP

The purchasing power per head of sheep* on January 1, is shown in Figure 3.

Since 1877, the cycles have varied from seven to ten years in length and averaged nine years. One of the striking features of the price cycles for beef cattle, sheep and horses is the increase in violence. This is apparently not due to increasing violence in the fluctuations of supply. Apparently, it is due to a less flexible demand than formerly prevailed, or to the tendency to hold retail prices steady, regardless of farm prices, which would tend to make demand appear less flexible.

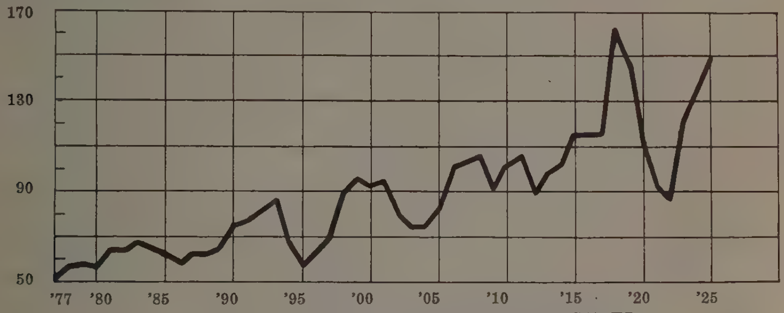

FIGURE 3. PURCHASING POWER OF SHEEP.

Sheep have periods of high and low prices, each lasting about four and a half years. On January 1, 1925, the purchasing power of sheep was 50 per cent above the 1910-1914 average.

The purchasing power of sheep declined from 1918 to 1922. It has since risen for three years. If former experiences are repeated, a decline is likely to begin soon. Since the cycles are not absolutely uniform the exact number of years cannot be foretold, but the curve is sufficiently uniform to be useful to the sheep grower. An example of how another factor may change the cycle is shown by the purchasing power of sheep on January 1, 1909. The panic of 1907 made the year 1908 a bad year industrially. The demand for mutton and lamb was so poor that prices fell even though this was in a period when there was a shortage of sheep.

On January 1, 1925, sheep had the highest purchasing power they have ever had except in 1918. That is compared with the general price level of all commodities, sheep are higher in price than in any year but one in the past fifty years.

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*The index number of the price per head on January 1 as given by the United States Department of Agriculture is divided by the index number of wholesale prices of all commodities. Prior to 1900, wholesale prices are not available for January, therefore, the average of prices for the year and preceding year are used to represent January. The five-years, 1910-1914, is taken as 100.

If present prices of sheep, wool, and lambs were to continue, a very great expansion of the industry would be justified in New York State. A moderate expansion on farms that are fenced for sheep may possibly be justified. The purchase of sheep at present prices and the fencing of farms at present labor costs is a highly speculative undertaking.

When the five-year average price of sheep per head on farms is considered as 100, the average price for January 1, 1925, was 245. The index number for market sheep at farm prices was 185 and for lambs was 210. The good prices on the market together with wool prices have resulted in the very high values for breeding stock.

It will also be noted that over the fifty-year period there has been a strong tendency for sheep to rise in price compared with other commodities. The value per head is about twice what it was fifty years ago. This is due in part to better sheep and in part to the reduction of free ranges and cheap pasture.

In the past there has been a tendency to raise the tariff on wool after a period of depression in the sheep industry, and to lower the tariff following a period of prosperity. The tariff was lowered in 1883 when sheep were profitable; raised in 1890 following a period of losses. Wool was placed on the free list in 1894 following a profitable period. The tariff was restored in 1897 following a period of losses. In 1909, following a period of prosperity, an effort was made to lower the tariff, but this was not done until 1913. The tariff was again raised in 1921 during the drastic depression. Apparently, the unstable government policy tends to increase the violence in the sheep cycle.

The consumer never enthuses over a tariff but apparently it is possible to convince him of the desirability of one when there is a shortage of sheep. It is much more difficult to pursuade consumers to let the tariff stand after a period of prosperity to sheep growers. The cycles in the sheep industry apparently cause cycles in tariff policy. G. F. Warren and F. A. Pearson

THE OUTLOOK FOR THE CABBAGE AND POTATO CROP IN 1925

The acreage of cabbage usually has been increased about one-fourth following years of high prices, and has been decreased following years of low prices. If, during the period from 1919 to 1923, five acres of cabbage had been harvested in years following high prices and ten acres in years following low prices, the crops would have sold for a total of nearly one thousand dollars more than would have been received if ten acres had been set in years after high prices and five acres after low prices. In recent years the yields have alternated so that the largest yields usually occurred when the acreage was largest and vice versa. This combination has made the great fluctuations in production possible from year to year. The yields are largely determined by the weather. Some of the difference in yields may be attributed to better care in years following high prices.

The cabbage acreage last year was about average. The large crop was due to the high yields. In New York state the yield was estimated at 11.4 tons per acre. This was the second largest yield ever recorded. Since cabbage prices have been low this past season, the acreage for 1925 is likely to be reduced.

CABBAGE ACREAGE, PRICES AND YIELDS

Year	Season's average price per ton paid to growers, Little York, N. Y.*	Commercial Acreage		Yield—10 states	
		Total	Per cent change	Tons per acre	Per cent change
1917	$28.72	93,090		8.1	
1918	14.68	111,940	+20	8.8	+9
1919	30.33	94,300	—16	7.2	—18
1920	6.86	121,421	+29	11.1	+54
1921	26.34	104,580	—14	6.7	—40
1922	11.67	133,830	+28	9.7	+45
1923	15.38	104,880	—22	8.3	—14
1924	10.00	109,960	+5	10.0	+20
Averages	$18.00	109,250		8.7	

*Misner, E. G., Farm Economics No. 16, p. 152, July, 1924.

POTATOES

Considering the supply, potatoes for the past six years have sold for less than formerly. It has frequently been pointed out in Farm Economics that, when the general price level declines, wages lag. In such a period the demand for the cheaper foods, such as potatoes, is low.

Another reason for the decreasing demand for potatoes may be due to the changes in our population. Fewer persons are doing hard physical labor. More persons are employed at machines or at desks. Foreigners have not come to the United States in such numbers as formerly. Whatever may be the reasons it seems that, during the past few years, a potato crop of about 3.5 bushels per capita is all that can be used at the normal price. If the demand had continued to increase as it did for fifty years prior to 1918, there would have been a normal demand at the present time for about 3¾ bushels per capita. Since we are in a period when the demand for potatoes is less than formerly, it is probably best for one to be conservative about increasing his potato acreage.

The large production of potatoes last year was due to an unusually large yield per acre. The yield was 10 per cent larger than the next highest potato yield recorded, which was in 1912. The acreage last year was 6 per cent less than the average acreage for the ten preceding years. Potato acreage does not fluctuate from year to year as does the cabbage acreage, but there is a tendency for farmers to increase the acreage following years of high prices. Present potato prices would not encourage increased planting. With the high wheat prices, the Northwest may raise more acres of wheat in 1925 and less potatoes. The high bean prices may encourage some farmers in this state to grow more beans and less potatoes. If the potato acreage this coming year remains the same as last year, and if there is an average yield, the crop would be about 10 per cent less than 3.5 bushels per person. A crop 10 per cent below normal usually sells for 18 per cent more than the usual price.

G. P. SCOVILLE

RETURNS FROM TOMATOES AND CANNING FACTORY PEAS

Tomatoes

If tomatoes sell for $16 per ton, the returns for each hour of man labor spent on the crop would average about 12 cents for a 6-ton yield, 29 cents for an 8-ton yield, 44 cents for a 10-ton yield, and 72 cents for a 16-ton yield. These estimates were calculated from the cost on 133 New York farms growing tomatoes in 1920 as published in Cornell Bulletin 412. The returns per hour of man labor given in the following table are based on the assumption that costs are 14 per cent less than in 1920. These estimates represent average returns. The returns on any particular farm would vary according to the amount of labor put on the crop, hauling distance, land values, and many other factors.

ESTIMATED RETURNS PER HOUR OF MAN LABOR ON TOMATOES WITH VARYING PRICES AND YIELDS PER ACRE

	RETURNS PER MAN HOUR (CENTS)							
Price per ton	2 Ton per A.	4 Ton per A.	6 Ton per A.	8 Ton per A.	10 Ton per A.	12 Ton per A.	14 Ton per A.	16 Ton per A.
$4	—67	—50	—39	—31	—25	—20	—16	—12
8	—59	—37	—22	—11	—2	5	11	16
12	—50	—24	—5	9	21	29	38	44
16	—42	—10	12	29	44	54	64	72
20	—34	3	29	50	67	79	91	99
25	—23	20	51	75	95	110	125	134
30	—13	36	72	100	124	141	158	169

Because tomatoes require a long growing season they are commercially grown in New York State in those counties bordering on Lake Ontario and Lake Erie. The farmers on the best land near Lake Ontario usually have so many apples and peaches to harvest that they do not have the time to harvest tomatoes. Therefore tomatoes are more commonly grown on the less desirable soil types, where the orchards are small. The yield of tomatoes for a number of years on the Clyde soils in the town of Newfane, Niagara County, New York, has averaged 4.0 tons as compared with an average of 7.2 tons on the best fruit soils. Because so many of the farmers on the Clyde soils grew tomatoes, the average yield for all farms in this area for the past 11 years was only 5.7 tons. This would indicate that the Newfane farmers probably averaged about 9 cents per hour for their time spent on tomatoes in 1923; 22 cents in 1922; 31 cents in 1921; 66 cents in 1920; and 34 cents in 1919.

TOMATO YIELDS AND PRICES

Average of all farms Newfane area, Niagara County, N. Y.

Year	Per cent of farms growing crop	Acres per farm growing crop	Price per ton	Tons per acre	Value of crop per acre
1913	30	2.8	$8.32	7.7	$64
1914	32	2.6	9.05	7.3	66
1915	17	2.4	4.67	4.5	21
1916	24	1.8	12.25	2.1	26
1917	45	2.0	26.30	1.2	32
1918	58	2.1	18.61	4.0	74
1919	49	1.9	17.74	7.4	131
1920	55	2.0	23.69	7.7	182
1921	30	1.1	16.79	7.6	128
1922	47	2.9	15.97	7.1	113
1923	50	2.3	15.98	5.7	91
Average	43	2.2	15.40	5.7	84

Canning Factory Peas

If canning factory peas sell for $65 per ton, the returns for each hour of man labor spent on the crop would average about 17 cents for ¾ of a ton yield; 52 cents for a ton yield; 88 cents for 1¼ ton yield; and $1.25 for a 1½ ton yield. These estimates were calculated in the same manner as were the tomato estimates. An acre of canning factory peas requires only about one-quarter to one-fifth as much work as an acre of tomatoes.

ESTIMATED RETURNS PER HOUR OF MAN LABOR ON CANNING FACTORY PEAS WITH VARYING PRICES AND YIELDS PER ACRE

	RETURNS PER MAN HOUR (CENTS)					
Price per ton	500 lbs. per A.	1,000 lbs. per A.	1,500 lbs. per A.	2,000 lbs. per A.	2,500 lbs. per A.	3,000 lbs. per A.
$50	—131	—66	—23	11	41	70
60	—120	—49	0	38	73	107
70	—109	—31	22	65	104	144
80	—98	—14	45	92	136	180

Judging from the yields and prices, canning factory peas paid well in Livingston County in 1919 and in all the areas given for 1920. The low yield in Madison County in 1922 was partly due to a total loss on two farms where the crop was drowned out. The yield on the other farms averaged 1,262 pounds per acre. Where canning factory peas can be substituted for oats or barley in the rotation they usually pay better.

YIELD AND PRICE OF CANNING FACTORY PEAS IN SOME NEW YORK REGIONS

County	Year	Number of farms	Per cent of farms growing peas	Acres peas per farm growing peas	Yield per acre, lbs.	Price per ton
Livingston	1919	149	21	6.9	2294	$63
1. Orleans	1920	76	—	5.0	1971	80
1. Genesee	1920	48	—	8.5	2197	79
1. Steuben	1920	53	—	5.7	2633	82
1. Ontario	1920	50	—	3.6	2099	83
1. Other Counties	1920	35	—	5.9	2408	79
2. Cortland	1921	12	24	3.2	1642	77
3. Madison	1921	28	22	3.1	1453	62
3. Madison	1922	27	25	4.1	1113	69

1. Norton, L. J., Cornell Bulletin 412.
2. Misner, E. G., " " 433.
3. Misner, E. G., " " 438.

G. P. Scoville

VARIATIONS IN DELIVERIES OF MILK AT COUNTRY PLANTS

Long time and temporary changes in the consumption of milk and cream in the New York market were discussed in Farm Economics 21. The production of milk is subject to similar changes. Some of these changes in production are shown in Figure 4.

The twenty-seven plants on which this chart is based are all located in the region that ships milk regularly to the New York market. The quantity of milk received annually at these plants decreased about 24 per cent between 1911 and 1916. During the same period the average number of dairies from which milk was received, decreased 7 per cent and the production per dairy decreased 20 per cent. Costs of milk production were increasing during this period while the price of milk remained practically stationary. The milk strike which resulted from this unsatisfactory situation accounts for the severe drop in deliveries at the plants in October, 1916.

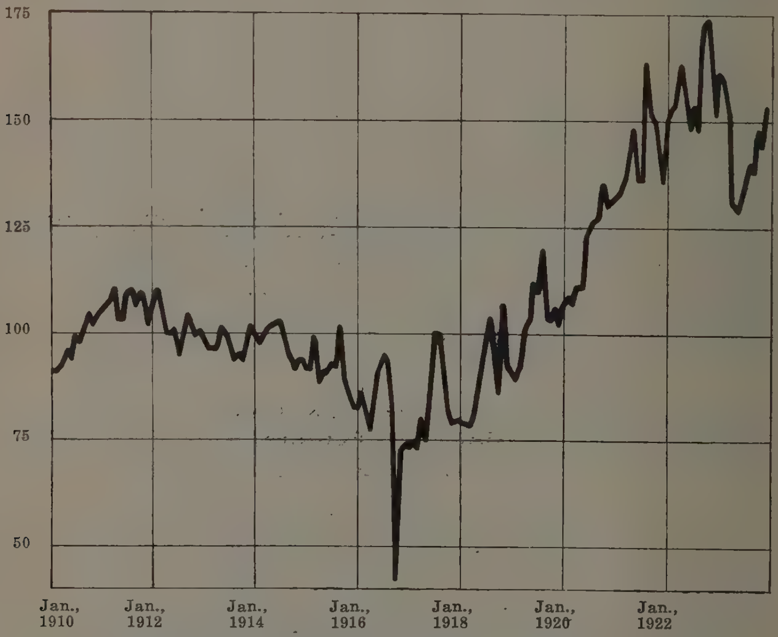

FIGURE 4.—Index numbers of monthly receipts of milk at 27 shipping stations in the territory tributary to the New York market.

From 1916 to 1923 the quantity of milk received annually at these plants increased 76 per cent. During the same years the average number of dairies from which milk was received, increased 54 per cent, and the production per dairy increased 16 per cent.

The increased number of dairies shows that each of these plants is serving a larger area than formerly. Hard surfaced roads and motor trucks make it possible to haul milk economically much longer distances than it could be hauled by wagon over dirt roads. This has meant a new outlet for many farmers more remote from railroad points. Many cheese factories and other small plants have discontinued operations and the milk once handled by them now goes to shipping stations.

The increased production per dairy from 1916 to 1923 is accounted for by the fact that prices paid at shipping stations during this period were more favorable than during the years just preceding.

The fluctuations in deliveries from month to month are due mostly to changes in weather conditions and to other factors beyond the control of the dairymen. During January, 1919, no figures on deliveries were compiled, due to the milk strike.

The seasonal variations in production are not shown in Figure 4. Each locality has a normal variation in production throughout the year. In the oldest market milk districts, like Orange County, most of the cows freshen in the fall. Production is greatest during the winter and spring months. It reaches a peak in May or June, and reaches the lowest point in August or September. In the sections far from the market, such as Jefferson County, most of the cows freshen in the spring. In this region production is lowest in the winter, increases during the spring, reaches a peak in June, and the decreases during the rest of the year. In Jefferson County, almost three times as much milk is produced in June as in December. Other parts of the territory vary between these extremes.

Permanent changes such as the increased volume of milk per plant, have an important bearing on the location and size of plants and on the methods of transportation. Fewer country plants are needed now. Many plants still operating are not properly located with relation to the area from which their supply is drawn.

The smaller fluctuations from month to month have a bearing on the question of surplus. In order to allow for these variations in supply, and for the variations in demand shown on page 235, of Farm Economics 21, a distributor's supply must average at least 15 per cent above the amount actually sold as fluid milk or cream.

LELAND SPENCER

PRICES AND FREIGHT RATES FOR FARM PRODUCTS

The fluctuating relationship between prices and freight rates had a decided effect on agriculture. During the early war years, prices rose rapidly and freight rates remained practically constant. The percentage of the total value of a commodity consumed by transportation costs grew less and less. In 1920, freight rates increased and prices dropped, making the percentage of total value consumed by freight rates relatively high. The fluctuation in the proportion of the commodity consumed by freight rates in the case of hay, wheat, corn, potatoes, and apples is shown in the accompanying table. At the 1923 prices in New York City for hay, apples, and potatoes about one-fifth of the sale price was required to pay the freight from New York farms to New York City. Compared with the five-year pre-war average, 40 per cent more of the New York price of hay went to the railroad for freight.

NUMBER OF POUNDS PER HUNDRED CONSUMED BY FREIGHT RATES ON SEVERAL FARM PRODUCTS*

	Pounds					Index numbers, 1910-14 = 100				
Year	Hay	Wheat	Corn	Potatoes	Apples	Hay	Wheat	Corn	Potatoes	Apples
1900	16.1	11.7	......	15.5	14.4	123	163	......	113	120
1901	16.1	13.3	......	16.3	13.7	123	185	......	119	114
1902	15	13.3	......	11.6	14.5	115	185	......	85	121
1903	17	10.4	32.9	14.6	14.7	130	144	146	107	123
1904	19	7.5	31.3	10.9	15.7	145	104	139	80	131
1905	17.6	10.4	32.5	18.3	17.0	134	144	144	134	142
1906	13.6	10.0	33.3	12.7	10.8	104	139	148	93	90
1907	15.6	6.7	28.0	17.9	16.6	119	93	124	131	138
1908	17.4	7.0	21.8	12.9	12.2	133	97	97	94	102
1909	13.9	7.2	21.4	11.4	9.2	106	100	95	83	77
1910	12.7	6.5	19.7	16.7	12.6	97	90	88	122	105
1911	11.2	6.8	27.3	18.1	10.0	86	94	121	132	83
1912	13.9	8.1	19.1	8.1	13.1	106	113	85	59	109
1913	14	8.3	26.0	13.9	14.9	107	115	116	102	124
1914	13.4	6.4	20.3	11.5	9.2	102	89	90	84	77
1915	12.1	7.3	17.6	19.0	15.4	92	101	78	139	128
1916	14.8	4.4	16.8	8.3	14.7	113	61	75	61	123
1917	12.4	3.3	12.9	4.9	10.8	95	46	57	36	90
1918	11.8	3.2	7.2	6.5	9.6	90	44	32	47	80
1919	10.4	3.6	12.4	9.7	9.1	79	50	55	71	76
1920	18.4	3.6	11.8	6.0	9.3	140	50	52	44	78
1921	20.2	8.3	33.9	18.3	18.1	154	115	151	134	151
1922	21.8	9.3	38.6	12.2	11.0	167	129	172	89	92
1923	18.4	8.5	26.0	19.8	17.3	140	118	116	145	144

*New York wholesale price No. 1 timothy, freight rates western New York to N. Y. C.
Minneapolis cash wheat No. 1 northern, freight rate Larimore, N. D., to Minneapolis.
Chicago cash corn, freight rate Superior, Neb., to Chicago.
New York wholesale price western New York potatoes, freight rates western N. Y. to New York City.
New York wholesale price sixteen varieties of apples, freight rates western New York to New York City.
For hay, the prices are for the crop year. All other prices are the January average.

Freight took 45 per cent more of the money returned for potatoes and 44 per cent more of the receipts for apples than before the war. In the same year, it took only 16 per cent more of the Chicago price of corn to ship from Superior, Nebraska, and 18 per cent more of the Minneapolis price of wheat to ship from Larimore, N. D., than before the war. These differences are due in part to price relationships and in part to the fact that freight rates in the eastern territory have been increased more than those in the middle west.

HARRY S. GABRIEL

FARM ECONOMICS

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No. 23 April 10, 1925

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level U. S. Bureau Labor Statistics	General Price Level Fisher[1]	Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	146	86	118	197
1923	157	161	163	155	95	126	214
1924	153	152	146	166	77	83	218
Oct., 1923	156	159	150	143	85	106	218
November	155	155	149	151	87	97	218
December	154	154	153	157	92	93	220
Jan., 1924	154	153	153	163	100	92	219
February	155	156	153	165	102	91	218
March	153	152	151	162	95	91	222
April	151	149	144	156	94	84	218
May	150	148	141	154	88	76	217
June	148	146	141	156	83	70	214
July	150	147	137	164	70	69	214
August	153	151	144	170	58	72	216
September	152	152	145	170	53	79	221
October	155	155	143	169	53	80	217
November	156	157	146	178	58	90	218
December	160	159	152	190	67	101	223
Jan., 1925	163	165	160	201	77	96	223
February	164	166	157	203	80	98	220
March	....	166	159	200	77	....	....
April 3	....	160	....	199	81	....	....

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[1] Copyrighted by Irving Fisher. [2] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York Herald-Tribune. The data as published, are converted to the 1910-14 base by multiplying by 2.05. [3] Corresponding months 1910-1914 = 100. [4] Data furnished by the Department of Labor of New York State, June, 1914 = 100.

BUSINESS CONDITIONS

A rapid rise in wholesale prices of all commodities began in July last year. Fisher's index rose 20 points from June to February. Basic commodities, as indicated by the Harvard index, rose 23 points from July to January. During March, a rapid decline in prices began. This is indicated by Fisher's index number for the week ending April 3, which stood at 6 points below the March average. Apparently, the peak of wholesale prices has been passed. A decline of unusual violence has begun.

Prices of industrial stocks, which averaged 54 per cent above pre-war in May of last year, reached a peak of 103 per cent above pre-war in February. A decline began in March. For the week ending April 4, prices of 70 industrial stocks were 4 points below February, but were still 99 per cent above pre-war.

Interest rates, which reached a low point of 53 per cent of pre-war last fall, have risen and were 81 per cent of pre-war for the first week of April. They are still low.

The measures of business activity that forecast conditions furthest in advance seem to indicate that the tide has turned. Those things which react more slowly will doubtless reach a turning point at a later date.

Very low interest rates were doubtless the primary cause of the beginning of the rise in prices of industrial stocks. The violence of the rise in the later periods was doubtless due to speculative activity. This is similar to the action of wheat prices. The first rise was due to a shortage of wheat but the rise was so rapid that its own violence stimulated further advance. Whenever the price of anything rises with great rapidity, it attracts the attention of thousands of persons who buy, not because of fundamental relationship, but because they have seen others make money out of the rapidly rising prices. It is, therefore, almost inevitable that a violent rise in prices will be carried too far. In like manner a violent drop carries prices too low because it drives all buyers out of the market.

FARM PRICES

At the time this is being written prices paid to farmers for farm products for March are the latest figures available. The March index number for prices paid to farmers for food stood 52 per cent above pre-war. It was, therefore, approaching wholesale prices of foods. Prices of all farm products including cotton were 57 per cent above pre-war. The spectacular decline in the prices of corn and wheat, which has recently taken place, is not reflected in these index numbers.

Potatoes continue to decline in price, despite the fact that they are already very low. It is doubtful if the entire crop will be consumed.

Eggs in March were only 11 per cent above pre-war prices. With eggs so near pre-war prices, and grain still far above pre-war, the poultrymen are in worse condition than last month indicated. The producers of nearby hennery white eggs, for the New York market, are in better condition than these figures indicate. With the present high wages and cheap food, the prices of the superior grades do not bear the usual ratio to prices for average grades.

(Continued on page 262)

PRICES, 1910-14 = 100

Year	Non-Agricultural Products[1]	Farm Prices		Prices of Food in the United States		
		New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	105	97	99	101	99	103
1914	97	103	101	105	101	105
1915	101	100	101	106	104	104
1916	138	116	119	120	120	118
1917	182	170	180	180	165	151
1918	188	186	206	197	186	173
1919	199	206	215	210	205	192
1920	241	217	214	209	218	209
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1922	168	134	124	122	137	146
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February	178	132	136	123	140	146
March	179	133	138	123	142	146
April	180	143	139	122	143	147
May	176	148	138	124	143	147
June	172	163	134	121	141	148
July	169	157	134	120	140	152
August	167	149	129	118	141	151
September	167	151	133	122	146	154
October	165	147	138	123	147	155
November	163	143	141	122	147	156
December	162	135	143	123	146	155
Jan., 1924	164	123	143	121	142	154
February	166	123	142	122	142	152
March	166	125	136	119	140	148
April	164	130	135	118	136	145
May	162	129	135	118	136	145
June	159	135	134	119	135	147
July	158	129	138	124	137	148
August	159	133	146	132	143	149
September	158	129	137	129	146	151
October	158	127	145	137	150	153
November	160	134	145	138	152	155
December	163	135	147	141	156	156
Jan., 1925	165	136	154	148	158	159
February	167	136	153	147	155	156
March	....	....	157	152	....	....

[1] United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Corn, bu.	January	1.120	1.35	192	188
	February	1.145	1.36	192	192
	March	1.121	1.43	185	201
Oats, bu.	January	.540	.63	140	140
	February	.534	.66	135	140
	March	.497	.61	124	130
Wheat, bu.	January	1.621	1.74	185	176
	February	1.698	1.88	190	188
	March	1.640	1.85	184	185
Barley, bu.	January	.824	.95	135	127
	February	.848	1.01	133	135
	March	.815	.96	130	125
Rye, bu.	January	1.262	1.26	177	162
	February	1.322	1.37	182	178
	March	1.251	1.38	175	177
Buckwheat, bu.	January	1.070	1.02	152	144
	February	1.122	1.10	158	153
	March	1.124	1.21	159	170
Flaxseed, bu.	January	2.718	....	168	....
	February	2.753	....	161	....
	March	2.678	....	154	....
Beans, bu.	January	4.08	4.10	181	175
	February	4.27	4.40	192	188
	March	3.91	4.40	179	190
Cotton, lb.	January	.227	....	185	....
	February	.230	....	189	....
	March	.245	....	198	....
Hay, ton	January	12.70	13.00	108	85
	February	12.83	13.40	107	88
	March	12.39	12.60	103	81
Onions, bu.	January	1.64	1.36	159	168
	February	1.94	1.52	172	171
	March	1.89	1.56	159	144
Potatoes, bu.	January	.702	.59	112	92
	February	.723	.61	110	88
	March	.714	.55	107	81
Sweet potatoes, bu.	January	1.455	....	185	....
	February	1.602	....	192	....
	March	1.808	....	207	....
Apples, bu.	January	1.450	1.20	150	148
	February	1.510	1.25	147	144
	March	1.550	1.30	143	144
Horses, head	January	73.00	110.00	53	64
	February	78.00	115.00	55	66
	March	81.00	114.00	56	65

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Chickens, lb.	January	.185	.243	173	179
	February	.191	.240	175	171
	March	.200	.251	179	177
Eggs, doz.	January	.486	.57	164	150
	February	.357	.48	136	150
	March	.239	.31	111	111
Butter, lb.	January	.413	.46	145	135
	February	.387	.45	142	136
	March	.395	.45	153	145
Milk, 3.7% Pool price (Utica)	January	....	2.665	....	140
	February	....	2.55	....	140
	March	....	....	....	....
Milch cows, head	January	54.81	70.00	116	130
	February	54.79	68.00	115	125
	March	56.19	69.10	115	125
Beef cattle, cwt.	January	5.63	5.40	112	103
	February	5.69	5.70	111	108
	March	6.18	5.50	117	106
Veal calves, cwt.	January	8.50	12.00	125	142
	February	8.87	11.50	131	137
	March	9.21	11.50	133	138
Sheep, cwt.	January	7.86	6.60	171	158
	February	8.41	7.00	185	166
	March	8.20	6.50	171	152
Lambs, cwt.	January	12.69	14.00	219	218
	February	13.13	13.60	221	213
	March	13.48	14.00	217	217
Wool, lb.	January	.428	.50	231	227
	February	.432	.51	234	232
	March	.430	.48	230	229
Hogs, cwt.	January	9.31	10.20	132	137
	February	9.62	10.50	135	140
	March	11.83	11.30	160	146

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	January	40.00	145
	February	39.30	140
	March	36.70	130
Cottonseed meal, ton	January	55.00	162
	February	54.40	158
	March	52.40	155

BUSINESS CONDITIONS

(Continued from page 258)

Hay continues to decline and an unusually large hold-over seems probable. In some sections, hay is practically unsalable.

Bran, cottonseed and linseed oilmeal are now comparatively cheap. At the same time this is being written, bran can be obtained in Buffalo at $23.75 in carlots. Last year it sold as low as $21.00 for a short time.

Oilmeal in Buffalo is $38.50 per ton, which is approximately the low point of last year.

G. F. Warren and F. A. Pearson

FARM POPULATION IN NEW YORK STATE

In cooperation with the New York State Department of Farms and Markets, and the United States Department of Agriculture, estimates are made each February of the farm population in New York State. The results for 1925 are based on reports for 4,482 farms. The percentage changes on these farms are assumed to apply to the State as a whole. The farm population declined slightly last year, but the rate of decline was less than for the two previous years. The net movement away from farms has also decreased.

ESTIMATED NUMBER OF PERSONS LIVING ON FARMS IN NEW YORK

Year	February 1, Number of persons	Per cent of preceding year
1917	898,000	....
1918	858,000	96
1919	824,000	96
1920	801,000	97
1921	785,000	98
1922	794,000	101
1923	762,000	96
1924	741,000	97
1925	733,000	99

ESTIMATED MOVEMENT OF MALE WORKERS TO AND FROM FARMS FOR THE YEAR ENDING FEBRUARY 1

Year	Men and boys who left farm work for other kinds of work	Men and boys who left other kinds of work to farm
1918	24,200	15,700
1920	33,200	10,900
1921	39,800	16,200
1922	16,500	13,700
1923	33,900	8,200
1924	40,500	14,200
1925	29,100	10,800

ESTIMATED NUMBER OF HIRED MEN ON FARMS ON FEBRUARY 1

Year	Hired men Number	Ratio to preceding year Per cent
1916	76,988	......
1917	65,132	84.6
1918	53,599	82.3
1919	45,559	85.0
1920	37,768	82.9
1921	34,558	91.5
1922	34,593	100.1
1923	30,546	88.3
1924	27,498	90.0
1925	26,717	97.2

G. F. Warren

COMPARISON OF CYCLES OF OVER- AND UNDER-PRODUCTION

A comparison of the cycles of over- and under-production for five classes of livestock are shown in the table. For the five classes of livestock, the horse cycle is the longest, averaging 11 years from high to low. The beef cattle cycle averages 8 years; the sheep and egg cycles 4½ years; and the hog cycle 32 months.

The last cycles for horses, beef cattle, sheep and hogs were much more violent than is usual. For this reason the reaction is likely to be more violent than usual.

CYCLES OF OVER- AND UNDER-PRODUCTION

Commodity	Number of years included	Average period from low to high or high to low	Variations in the length of period	Percentage peaks exceeded normal and troughs were below normal for last cycle	Character of the curves
Horses	46	11 years	10-14 years	45	Regular
Beef cattle	48	8 years	6-10 years	34	Very regular
Sheep	49	4½ years	3-6 years	30	Fairly regular
Eggs	51	4½ years	3-6 years	8	Fairly regular
Hogs	63	32 months	15-65 months	25	Fairly regular

Horses and beef cattle are now at the bottom of the cycle and, in each case, are apparently at the turning point.

Presumably the price of both of these will begin to rise in the near future. Probably horses will reach their normal relationship to other prices in five or six years and will be very high in ten to fourteen years. Beef cattle may be expected to reach their normal relationship to other commodities in about four years and are likely to be very high in about eight years.

Sheep are at the highest level ever known, except for 1918. Very high wages with full employment and cheap food have made the demand for lamb, as well as for clothing, very high. How long this condition can continue, is uncertain. Sheep cycles have been less regular than the cycles for beef cattle, but, judging by past experiences the present ratio of prices of sheep to other commodities cannot be expected to be permanent.

Eggs declined very rapidly during the past year. The decline was as great as usually occurs during the entire cycle. Since the decline has been so great, and since feed has been so high, it may be that the industry will be sufficiently curtailed to allow recovery sooner than is usual.

Hogs have been rapidly rising in price since April, 1924. At that time, the price paid to farmers was 88 per cent of pre-war. In March, 1925, prices paid to farmers were 160 per cent of pre-war. If the cycle is as long as usual, hogs will continue to be high for another year.

G. F. WARREN and F. A. PEARSON

MILK PRICES AND PRICES OF INDUSTRIAL STOCKS

For the 17 years, 1897 to 1913 inclusive, the price cycles for milk, at prices paid to farmers in New York, tended to follow the cycles of prices of industrial stocks with a lag of 15 months. The relationship is shown in Figure 1. In this chart the price of milk for December, 1913, is plotted to correspond with the price of stocks for October, 1912, and similarly for other dates. It will be observed that altho the milk cycles are irregular, there is considerable relationship (coefficient of correlation, $r = +0.43 \pm 0.04$. For each curve adjustment has been made for secular trend and seasonal variation.

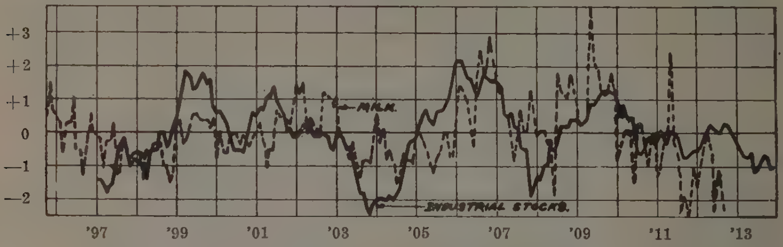

FIGURE 1. Cycles of high and low prices of Industrial Stocks and Prices Paid to Farmers for Milk at Utica, New York.

For the seventeen years, 1897 to 1913, milk prices tended to be high about 15 months after the price of industrial stocks.

Figure 2 shows similar relationship for prices paid to New York farmers for milk and prices of industrial stocks since 1921, but with a lag of 6 months.

The same relationship seems to continue. The reason for the relationship is that business activity usually follows the stock market and that in periods of full employment at high wages the demand for milk is increased.

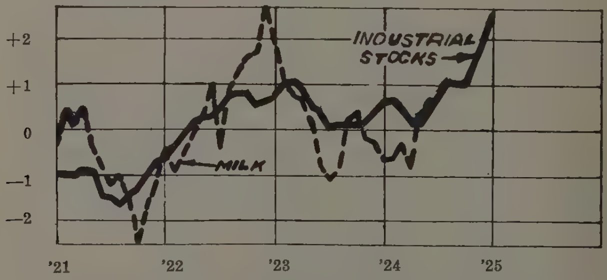

FIGURE 2. Cycles of high and low prices of Industrial Stocks and Prices Paid to Farmers for Milk at Utica, New York, six months later.

For the four years, 1921 to 1925, milk prices tended to lag about six months behind the movement of prices of industrial stocks.

The lag in milk prices before the war was about 15 months. In this period, milk prices were announced 6 months in advance so that it was impossible to have prices quickly adjusted to changes in demand. Since 1921, prices have been determined month by month, and are responding more promptly to changes in demand. Milk cycles now tend to follow the stock market with about the same lag as cheese, butter, and hogs.

If the usual relationship holds, the price of milk this year will be higher than last year. G. F. WARREN and F. A. PEARSON

FARM ECONOMICS

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No. 24 May 6, 1925

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
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April	....	160	154	201	78	....	....

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BUSINESS CONDITIONS

Altho business activity continues at a very high level, there is some curtailment of production. Competition is increasingly severe and profits for many industries are less than last year. Pig iron production has receded somewhat, but is still at a high level. The unfilled orders of the United States Steel Corporation continue to decline.

Fisher's index of wholesale prices continues to decline. Since February it has dropped 6 points. Prices of industrial stocks are still double the pre-war level, but somewhat below the peak in March.

Interest rates advanced very rapidly last fall, but changed very little in the last three months. Money is one of the cheapest commodities at the present time. In New York, one can obtain the use of a dollar for a year at less than the pre-war cost. The full effect of low interest rates has not yet been felt in farm mortgages. Interest rates on mortgages are likely to respond in time. The agricultural depression resulted in heavy losses to lenders and some time is required to re-establish confidence in farm mortgages.

FARM PRICES

During March, the index number of farm prices in the United States was 57 per cent above pre-war, the highest figure since November, 1920. In April, the index declined 5 points. Prices paid to farmers for food products also declined 5 points in April. Spectacular declines occurred in the prices of grains but many other farm products also fell in price. Of the 25 products listed on pages 268 and 269, the prices of 16 declined, 3 were stationary, and only 6 rose.

The pool price of milk in New York for March was 49 per cent above pre-war prices. Milk prices thus far this year have been much higher than in 1924.

The estimated world wheat acreage is 3.6 per cent greater than last year, or the acreage is about the same as two years ago. Last year the world crop was poor and the United States crop was good. This resulted in good returns for wheat producers in this country. Presumably the world production per acre this year will be much larger than last year. At the same time the condition of the winter wheat in the United States is very poor. Consequently the outlook for the winter wheat producer is less favorable. Last year he sold a good crop on a short world market. This year he may have to sell a poor crop on a world market that is better supplied.

The acreage of spring wheat is much larger than last year. The forecast of yield has not yet been made. The world acreage of rye is 5 per cent greater than last year. This will doubtless effect the world wheat market.

G. F. Warren and F. A. Pearson

PRICES, 1910-14 = 100

Year	Non-Agricultural Products[1]	Farm Prices		Prices of Food in the United States		
		New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
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1914	97	103	101	105	101	105
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June	172	163	134	121	141	148
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August	167	149	129	118	141	151
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October	165	147	138	123	147	155
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June	159	135	134	119	135	147
July	158	129	138	124	137	148
August	159	133	146	132	143	149
September	158	129	137	129	146	151
October	158	127	145	137	150	153
November	160	134	145	138	152	155
December	163	135	147	141	156	156
Jan., 1925	165	136	154	148	158	159
February	167	136	153	147	155	156
March	165	136	157	152	157	156
April	....	....	152	147	....	....

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[1] United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

		Prices		Index Numbers	
Commodity	Date	United States	New York	United States	New York
Corn, bu.	February	1.145	1.36	192	192
	March	1.121	1.43	185	201
	April	1.038	1.28	167	180
Oats, bu.	February	.534	.66	135	140
	March	.497	.61	124	130
	April	.447	.60	110	122
Wheat, bu.	February	1.698	1.88	190	188
	March	1.640	1.85	184	185
	April	1.405	1.56	158	156
Barley, bu.	February	.848	1.01	133	135
	March	.815	.96	130	125
	April	.761	.92	118	119
Rye, bu.	February	1.322	1.37	182	178
	March	1.251	1.38	175	177
	April	1.009	1.16	139	149
Buckwheat, bu.	February	1.122	1.10	158	153
	March	1.124	1.21	159	170
	April	1.041	1.04	144	142
Flaxseed, bu.	February	2.753	....	161	....
	March	2.678	....	154	....
	April	2.447	....	141	....
Beans, bu.	February	4.27	4.40	192	188
	March	3.91	4.40	179	190
	April	3.84	3.90	175	171
Cotton, lb.	February	.230	....	189	....
	March	.245	....	198	....
	April	.237	....	191	....
Hay, ton	February	12.83	13.40	107	88
	March	12.39	12.60	103	81
	April	12.49	12.40	103	80
Onions, bu.	February	1.94	1.52	172	171
	March	1.89	1.56	159	144
	April	2.02	1.72	159	164
Potatoes, bu.	February	.723	.61	110	88
	March	.714	.55	107	81
	April	.705	.49	104	71
Sweet potatoes, bu.	February	1.602	....	192	....
	March	1.808	....	207	....
	April	1.962	....	211	....
Apples, bu.	February	1.510	1.25	147	144
	March	1.550	1.30	143	144
	April	1.580	1.33	138	129
Horses, head	February	78.00	115.00	55	66
	March	81.00	114.00	56	65
	April	83.00	118.00	57	65

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	February	.191	.240	175	171
	March	.200	.251	179	177
	April	.211	.254	183	172
Eggs, doz.	February	.357	.48	136	150
	March	.239	.31	111	111
	April	.242	.28	142	133
Butter, lb.	February	.387	.45	142	136
	March	.395	.45	153	145
	April	.397	.46	156	153
Milk, 3.7%	February	....	2.55	....	140
Pool price (Utica)	March	....	2.51	....	149
Milch cows, head	February	54.79	68.00	115	125
	March	56.19	69.10	115	124
	April	56.85	73.00	115	129
Beef cattle, cwt.	February	5.69	5.70	111	108
	March	6.18	5.50	117	106
	April	6.55	6.00	119	112
Veal calves, cwt.	February	8.87	11.50	131	137
	March	9.21	11.50	133	138
	April	8.80	10.90	130	141
Sheep, cwt.	February	8.41	7.00	185	166
	March	8.20	6.50	171	152
	April	8.42	6.20	166	136
Lambs, cwt.	February	13.13	13.60	221	213
	March	13.48	14.00	217	217
	April	12.22	13.40	189	196
Wool, lb.	February	.432	.51	234	232
	March	.430	.48	230	229
	April	.408	.44	227	210
Hogs, cwt.	February	9.62	10.50	135	140
	March	11.83	11.30	160	146
	April	11.64	12.60	154	161

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	February	39.30	140
	March	36.70	130
	April	34.30	120
Cottonseed meal, ton	February	54.40	158
	March	52.40	155
	April	52.30	154

RAINFALL AND ALTERNATE BEARING HABITS AS FACTORS AFFECTING THE PRODUCTION AND PRICE OF APPLES

The annual variations in apple production and prices aside from changes in price due to changes in the general price level, are due largely to three conditions, (1) rainfall, (2) biennial bearing habits, and (3) frost and freeze-injury.

The smallest apple crop, relative to normal, in the past 34 years, occurred in 1921, when the rainfall was light. This also was a year of expected light bearing in the Lake states, and a year with a reported damage from frost and freeze of 49 per cent for the United States. A combination of all three of these damaging situations does not often occur in the same year. The price in New York City according to G. P. Scoville was 162 per cent of normal, the highest on record.

Rainfall

G. P. Scoville has calculated the average New York City wholesale price (August to June inclusive) of 16 varieties of apples and weighted this price according to carlot arrivals in New York City. The price was corrected by dividing by the index numbers of wholesale prices of all commodities of the United States Bureau of Labor Statistics, with 1913 as 100. Also Professor Scoville has calculated the size of the United States apple crop for each year in per cent of the normal crop. The writer has related these index numbers of size of crop and of price to the rainfall in western New York. For the 30 years, 1894 to 1923 inclusive, the correlation between the July, August and September rainfall in western and central New York and the size of the apple crop in the United States was $+0.415 \pm 0.102$.

The relation of this rainfall to the size of the United States crop and to the weighted wholesale price of 16 varieties of apples in New York City is shown in Table 1.

TABLE 1.—RELATION OF THE RAINFALL IN WESTERN AND CENTRAL NEW YORK TO THE SIZE OF THE UNITED STATES APPLE CROP AND TO WHOLESALE APPLE PRICES IN NEW YORK, N. Y.

(EXPRESSED AS PERCENTAGES OF THE NORMAL)

Rainfall less than 85 per cent of normal				Rainfall 85-110 per cent of normal				Rainfall over 110 per cent of normal			
Year	Rain	Crop	Price	Year	Rain	Crop	Price	Year	Rain	Crop	Price
1907	84	68	106	1900	89	127	94	1902	120	128	75
1908	78	84	115	1901	100	83	141	1903	118	117	88
1909	76	82	104	1906	104	125	93	1904	123	138	79
1913	71	79	117	1911	100	118	93	1905	111	79	123
1916	72	104	80	1914	102	137	80	1910	112	79	120
1923	71	102	96	1917	102	89	82	1912	115	129	86
				1918	104	90	106	1915	151	124	84
				1919	90	75	96	1920	126	118	84
				1921	88	52	162				
				1922	104	106	90				
Average	75	86	103		98	100	104		122	114	92

In New York, in none of the dry years has the crop been so large as the average in the wet years. The average crop in New York in the 8 wet years was 37 million bushels, or 35 per cent higher than the average of 28 million bushels for the 6 dry years. The United States crop averaged 33 per cent more in the wet than in the dry years. There were two wet years, 1905 and 1910, with very low production—the crop in those years being lower than in any of the dry years. The years 1902, 1903, and 1904, were years of heavy rain and of large crops, and possibly the low crop of 1905 is partly accounted for by this fact. Frost or other injury might, however, be responsible for the small crops of 1905 and 1910. Any factor causing sufficient injury to practically destroy the set would, of course, limit the crop regardless of the amount of rainfall.

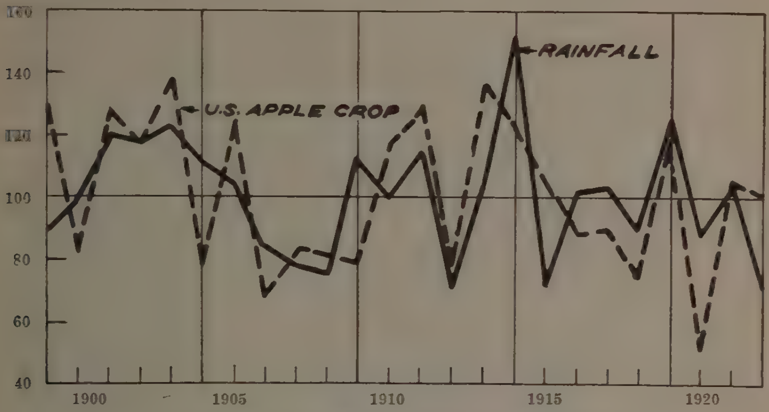

FIG. 1.—APPLE PRODUCTION AND RAINFALL.

Changes in the rainfall of western New York are closely associated with variations in the United States apple crop.

For the six years of very light rainfall with an average rain of 75 per cent of normal, the United States crop averaged 86 per cent of normal, and the wholesale price in New York City 103 per cent of normal. For the eight very wet years the rainfall averaged 122 per cent of normal, the size of the crop 114 per cent of normal, and the wholesale price in New York 92 per cent of normal. When the thirteen years with rainfall over 100 per cent of normal are grouped the averages are, rainfall 115 per cent of normal, size of U. S. crop 112 per cent of normal and price in New York City 92 per cent of normal. When the eleven years with rainfall 100 per cent of normal or less are grouped the averages are, rainfall 84 per cent of normal, size of U. S. crop 89 per cent of normal and price in New York City 109 per cent of normal.

Alternate Bearing

The tendency toward biennial bearing of apples in the Lake district—Ohio, Michigan, and New York—is illustrated in Table 2.

The tendency toward alternate bearing is more marked in New York than in Ohio or Michigan. The coefficient of correlation between the present crop and the crop in the preceding year for New York was —0.727 ±0.092; for New York, Ohio, and Michigan crops combined, —0.524 ±0.142; and for the United States was —0.249 ±0.183. The average production in the high years in New York State was 93 per cent more than the average in the off years, and for New York, Ohio and Michigan combined 67 per cent more than the average in the off years. For the United States the average production in the six high alternate years has been 25 per cent greater than in the 7 off years. In the 13 years it has so happened that the off years have been the odd years and the big crop years the even years.

TABLE 2.—RELATION OF TENDENCY TOWARD ALTERNATE BEARING TO SIZE OF CROP

Alternate years	Millions of bushels in New York State		Millions of bushels in N. Y., Ohio, Mich.		Millions of bushels in the United States	
1923		24		50		197
1922	36		55		204	
1921		14		23		99
1920	47		78		224	
1919		14		23		142
1918	41		58		170	
1917		16		26		167
1916	35		54		194	
1915		26		53		230
1914	50		80		253	
1913		20		33		145
1912	44		72		235	
1911		39		70		214
Average per cent difference over low years	93		67		25	

The relation of alternate bearing habits to price is indicated by the fact that the average of wholesale apple prices in New York City for the seven years of light bearing has been 104 per cent of normal, and for the six years of heavy bearing 88 per cent of normal.

Frost and Freeze Injury

The average reduction of the apple crop from full yield because of frost and freeze as reported by the United States Department of Agriculture* was 11.6 per cent for the even years, or years of heavy bearing and 26.8 per cent for the odd years, or years of light bearing. It would appear that there might be a tendency for reporters to overstate the reduction in yield due to frost damage, and to disregard the tendency toward a reduced crop because of a heavy crop the preceding season. In a very wet year a good crop might result in spite of frost. Under such conditions it is possible, also, that the real damage from frost injury might be underestimated. Possibly more accurate reports on frost damage could be obtained at some other time, and certainly provision should be made in the schedules for variations in yield due to alternate bearing habits.

Frost may cause more damage to the apple crop than any other factor, but, ordinarily rainfall and alternate bearing tendencies have the most influence on variation in yield, and thru yield on price.

E. G. MISNER

BOUND VOLUME OF FARM ECONOMICS

Next month Farm Economics No. 25 will be printed. Numbers 1 to 25 will be bound. A few copies will be available at the cost of binding, $1.50. Preference will be given to Libraries and to those individuals who will return copies of numbers 15 and 16, the supply of which is limited. Those who return these copies for binding may obtain a bound volume for $1.25.

G. F. WARREN

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*Year Book, United States Department of Agriculture, 1923, p. 733.

FARM ECONOMICS

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NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 25 June 10, 1925

BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	146	86	118	197
1923	157	161	163	155	95	126	214
1924	153	152	146	166	77	83	218
Oct., 1923	156	159	150	143	85	106	218
November	155	155	149	151	87	97	218
December	154	154	153	157	92	93	220
Jan., 1924	154	153	153	163	100	92	219
February	155	156	153	165	102	91	218
March	153	152	151	162	95	91	222
April	151	149	144	156	94	84	218
May	150	148	141	154	88	76	217
June	148	146	141	156	83	70	214
July	150	147	137	164	70	69	214
August	153	151	144	170	58	72	216
September	152	152	145	170	53	79	221
October	155	155	143	169	53	80	217
November	156	157	146	178	58	90	218
December	160	159	152	190	67	101	223
Jan., 1925	163	165	160	201	77	96	223
February	164	166	157	203	80	98	220
March	164	165	159	200	82	93	224
April	159	160	154	201	78	88	218
May	....	159	....	209	82	....	....

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[1] Copyrighted by Irving Fisher. [2] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York Herald-Tribune. The data as published, are converted to the 1910-14 base by multiplying by 2.05. [3] Data furnished by Harvard Economic Service, corresponding months 1910-1914 = 100. [4] Data furnished by the Department of Labor of New York State, June, 1914 = 100.

BUSINESS CONDITIONS

The general price level reached a peak in February and March, and in April fell 5 points. Fisher's index also fell 5 points, and in May fell 1 point. Prices of bituminous coal, steel, coke, copper and sugar are very low. Prices of wool and cotton have declined rapidly whereas silk prices are comparatively stable.

The volume of general business, although below the level of February, is still above normal. City building continues to increase at a remarkable pace.

Interest rates remain at a very low level in the United States, although very high in many other countries. Prices of industrial stocks have rebounded from the reaction in March to a new high level—the highest ever known. All these figures reflect the high prosperity of American cities. So long as money and food remain so cheap this abnormal prosperity may be expected to continue. However, the prosperity is very erratic and spotted. Some city industries are in distress. A few farms are highly prosperous. But generally speaking the American cities are highly prosperous and farms are the reverse. Few other countries show any such decided prosperity.

One of the striking recent events is the return of England to the gold basis. Unstable exchange has had an important influence on foreign demand for farm products, and on competition with products of other countries. When the value of a currency of a country suddenly drops, it makes it difficult for that country to buy our farm products, because such a change means a rise in price for the buyers in that country. A drop in the value of currency also stimulates exports as was the case with Danish butter last year. This raised the price of butter to the Danish farmer even tho no change in price occurred in New York City. Conversely a sudden increase in the value of currency stimulates imports and checks exports. This was also illustrated by the large movement of butter to Germany following the sudden increase in the value of German currency.

While the presumption is that the foreign demand for farm products will continue to decline, with return to a gold basis, the erratic fluctuations in supply and demand will be less numerous.

PRICES OF FARM PRODUCTS

The April pool price of milk in New York was 63 per cent above the pre-war April average. This is the highest index since July, 1923. The average price paid for all farm products is 41 per cent above pre-war which is the highest index since November, 1923.

Milk, wool, chickens, beans are higher than the general price level. Hay is now worth only three-fourths of the pre-war price. In many regions it is practically unsaleable. Potatoes are only two-thirds of pre-war prices, and apples are one-third above pre-war.

In many parts of the middle west, the hay crop promises to be poor, other crops have also been damaged by the dry weather. For several years considerable areas of hay in New York have been left uncut. If the crop damage is severe enough, these areas may be worth cutting. It will pay to watch the weather and crop reports with unusual care.

G. F. WARREN and F. A. PEARSON

PRICES, 1910-14 = 100

Year	Non-Agricultural Products[1]	Farm Prices		Prices of Food in the United States		
		New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	105	97	99	101	99	103
1914	97	103	101	105	101	105
1915	101	100	101	106	104	104
1916	138	116	119	120	120	118
1917	182	170	180	180	165	151
1918	188	186	206	197	186	173
1919	199	206	215	210	205	192
1920	241	217	214	209	218	209
1921	167	144	119	128	143	158
1922	168	134	124	122	137	146
1923	171	142	137	122	143	151
1924	162	128	140	126	143	150
April, 1923	180	143	139	122	143	147
May	176	148	138	124	143	147
June	172	163	134	121	141	148
July	169	157	134	120	140	152
August	167	149	129	118	141	151
September	167	151	133	122	146	154
October	165	147	138	123	147	155
November	163	143	141	122	147	156
December	162	135	143	123	146	155
Jan., 1924	164	123	143	121	142	154
February	166	123	142	122	142	152
March	166	125	136	119	140	148
April	164	130	135	118	136	145
May	162	129	135	118	136	145
June	159	135	134	119	135	147
July	158	129	138	124	137	148
August	159	133	146	132	143	149
September	158	129	137	129	146	151
October	158	127	145	137	150	153
November	160	134	145	138	152	155
December	163	135	147	141	156	156
Jan., 1925	165	136	154	148	158	159
February	167	136	153	147	155	156
March	165	136	157	152	157	156
April	162	141	152	147	152	155
May	....	....	151	149	....	....

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[1] United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

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Wheat, bu.	March	1.640	1.85	184	185
	April	1.405	1.56	158	156
	May	1.491	1.68	166	168
Barley, bu.	March	.815	.96	130	125
	April	.761	.92	118	119
	May	.759	.97	117	123
Rye, bu.	March	1.251	1.38	175	177
	April	1.009	1.16	139	149
	May	1.036	1.20	144	150
Buckwheat, bu.	March	1.124	1.21	159	170
	April	1.041	1.04	144	142
	May	1.133	1.09	155	145
Flaxseed, bu.	March	2.678	....	154	....
	April	2.447	....	141	....
	May	2.518	....	143	....
Beans, bu.	March	3.91	4.40	179	190
	April	3.84	3.90	175	171
	May	3.91	4.20	172	179
Cotton, lb.	March	.245	....	198	....
	April	.237	....	191	....
	May	.230	....	183	....
Hay, ton	March	12.39	12.60	103	81
	April	12.49	12.40	103	80
	May	12.17	12.00	100	76
Onions, bu.	March	1.89	1.56	159	144
	April	2.02	1.72	159	164
	May	2.51	2.00	193	180
Potatoes, bu.	March	.714	.55	107	81
	April	.705	.49	104	71
	May	.706	.48	101	67
Sweet potatoes, bu.	March	1.808	....	207	....
	April	1.962	....	211	....
	May	1.891	....	193	....
Apples, bu.	March	1.550	1.30	143	144
	April	1.580	1.33	138	129
	May	1.790	1.50	146	133
Horses, head	March	81.00	114.00	56	65
	April	83.00	118.00	57	65
	May	82.00	124.00	57	70

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Chickens, lb.	March	.200	.251	179	177
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	May	.220	.266	186	179
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Butter, lb.	March	.395	.45	153	145
	April	.397	.46	156	153
	May	.395	.46	160	159
Milk, 3.7%	March	....	2.51	....	149
Pool price (Utica)	April	....	2.385	....	163
Milch cows, head	March	56.19	69.10	115	124
	April	56.85	73.00	115	129
	May	57.88	77.30	117	139
Beef cattle, cwt.	March	6.18	5.50	117	106
	April	6.55	6.00	119	112
	May	6.48	6.30	118	112
Veal calves, cwt.	March	9.21	11.50	133	138
	April	8.80	10.90	130	141
	May	8.35	9.70	127	132
Sheep, cwt.	March	8.20	6.50	171	152
	April	8.42	6.20	166	136
	May	7.53	5.90	152	137
Lambs, cwt.	March	13.48	14.00	217	217
	April	12.22	13.40	189	196
	May	11.99	12.40	186	190
Wool, lb.	March	.430	.48	230	229
	April	.408	.44	227	210
	May	.369	.40	207	200
Hogs, cwt.	March	11.83	11.30	160	146
	April	11.64	12.60	154	161
	May	10.78	11.90	149	157

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	March	36.70	130
	April	34.30	120
	May	37.60	133
Cottonseed meal, ton	March	52.40	155
	April	52.30	154
	May	52.00	154

FARM WAGES

In 1920, farm wages per month with board in the United States were 128 per cent above pre-war, but in 1922 they declined to 42 per cent above pre-war. Since 1922, farm wages have risen to 63 per cent above pre-war. Wages in the spring of 1925 were practically the same as in the spring of 1924.

TABLE 1.—INDEX NUMBERS OF FARM WAGES PER MONTH WITH BOARD.
1910-14 = 100

Year	New York	Iowa	North Dakota	Oregon	Alabama	Texas	United States
1910	96	95	96	102	96	96	94
1911	98	96	96	99	101	98	98
1912	99	101	101	99	101	101	101
1913	104	105	103	99	106	102	104
1914	103	103	104	102	96	102	103
1915	103	106	106	100	92	100	104
1916	120	116	110	110	92	109	113
1917	143	140	136	140	118	133	141
1918	163	170	173	185	155	165	150
1919	176	187	186	204	188	207	194
1920	221	226	233	217	216	224	228
1921	163	135	133	142	125	139	147
1922	162	125	129	139	130	129	142
1923	193	144	133	162	143	140	158
1924	190	150	128	151	155	152	168

During the year 1920, the index numbers of farm wages in Iowa, North Dakota, Texas, and New York, were approximately the same as for the United States. The indices were respectively 226, 233, 224, 221 and 228. The decline in wages from 1920 to 1922 was greatest in the grain belt, and least in the East. The high city wages have maintained farm wages on a higher level than in the regions where agriculture predominates. Farm wages in North

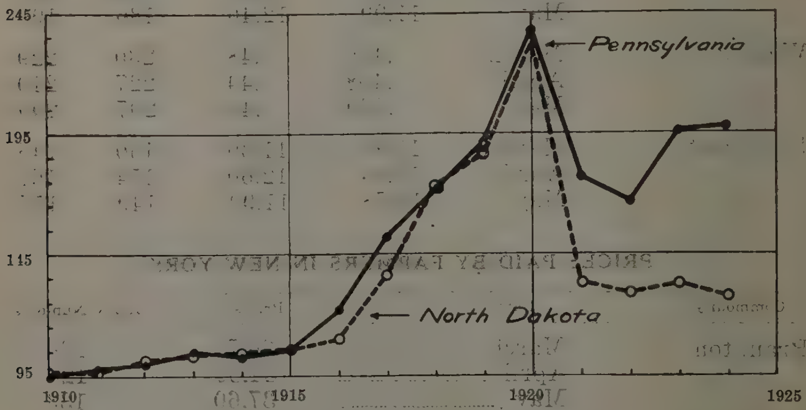

Figure 1.—Wages of Farm Workers in North Dakota and Pennsylvania.

Until 1920 wages in the two states rose at approximately the same rate. Since 1920 wages in North Dakota have been very low. The competition with industrial workers held wages in Pennsylvania at a high level.

Dakota have not risen. For four years they have been less than one-third above pre-war, while the earnings of New York factory workers have remained more than double pre-war. In states that have not suffered so severely, or in which the competition with industry is more keen, farm wages have risen more. Wages in Iowa last year were 50 per cent above pre-war. Wages on New York farms in 1924 were 90 per cent above pre-war. Since the average price received by New York farmers for farm products were 28 per cent above pre-war, it is easy to understand why the number of hired men now on farms is one-third of the number 10 years ago.

G. F. WARREN and F. A. PEARSON

WAGES OF DIFFERENT CLASSES OF WORKERS

In 1920, wages of farm workers compared with pre-war wages were higher than for most classes of labor. When prices fell, there was serious unemployment but city wages declined very little, while farm wages fell rapidly. Only a few farmers have more than one hired man, and farm labor is unorganized. The pay given it, therefore, responds quickly to changes in prices of the products of labor. In 1924, wages of farm labor in the United States were 65 per cent above pre-war. Nearly all other classes of labor were from two to two and one-half times the pre-war rates.

TABLE 1.—INDEX NUMBERS OF WEEKLY EARNINGS OF LABORERS IN SELECTED INDUSTRIES, PRE-WAR = 100

Occupation	1920	1922	1924
Bakers[2]	235	237	251
Woolen and worsted goods industry[2]	304	231	262
Men's clothing industry[2]		241	254
Hosiery and underwear industry[2]	......	190	218
Steam fitters' helpers[2]	223	222	261
Hod carriers[2]	217	196	224
Building labor[2]	207	196	222
Blast-furnace steel workers[2]	258	176	190
New York factory workers[3]	222	197	218
Union wage rates, U. S.[2]	189	183	214
School teachers' wages in New York[3]	144	218	......
United States farm wages[3]	237	145	165
New York farm wages	221	162	190

[2] Monthly Labor Review Vol. XIX, No. 1, p. 102, July, 1924; No. 3, p. 31, 37, Sept., 1924; No. 5, p. 120, Nov., 1924; No. 6, p. 43, 48, Dec., 1924.

[3] Farm Economics No. 23, p. 257, April 10, 1925; and No. 25, p. 283, June 10, 1925.

In general, it will be observed that the wages of unskilled workers have risen more than the wages of skilled workers. This is the usual relationship of wages, when prices rise rapidly.

G. F. WARREN and F. A. PEARSON

REAL WAGES IN DIFFERENT COUNTRIES

Exactly comparable wages rates are not available for all countries nor are index numbers of the cost of living calculated in exactly the same manner. However, the data in Table 1 convey a correct impression of comparative conditions.

Real wages in Europe are relatively low, and in the outlying parts of the world are high. Expressed another way, the European workman must class as luxuries some things he formerly called necessities. Whereas the workman in the United States has more money for luxuries than he had before the war. The relationship is confirmed by the varying consumption demands in different countries. · For example, in Germany, the consumption of potatoes per capita is greater than before the war, whereas the consumption of meat is less. In the United States, the demand for automobiles is much greater than before the war, and the demand for potatoes is less than formerly.

TABLE 1.—INDEX NUMBERS OF THE EARNINGS OF LABORERS IN TERMS OF THE COST OF LIVING, PRE-WAR = 100

Country	1923 or 1924
Germany[1]	82
Denmark[1]	83
Poland[2]	83
England[1]	90
Finland[1]	91
Norway[2]	107
Canada[1]	122
United States[1]	125
Argentina[1]	126
United States Farm Wages	94

[1] Monthly Labor Review, Vol. 19, No. 1, p. 100, July, 1924; No. 2, p. 121, August, 1924; No. 3, p. 72, 78, September, 1924; No. 6, p. 41, 43, December, 1924; and Vol. XX, No. 3, p. 82, March, 1925.

[2] International Labor Review, Vol. X, No. 2, p. 315, 323, August, 1924, and No. 3, p. 396, September, 1924.

If a farmer in the United States in 1924 exchanged food products as sold by him for items costing the same amount above pre-war as the cost of living of city workers is above pre-war, he would have received 74 per cent of the pre-war amount of commodities. Food products as sold by American farmers when compared with American city cost of living bear about the same ratio to pre-war as do the wages of European workers.

G. F. WARREN and F. A. PEARSON

PURCHASING POWER OF CITY WAGES

The relation of wages to prices of "all commodities" is often used to represent real wages or purchasing power. Since food is such a considerable part of the index of "all commodity" prices and since the quantity consumed is fairly constant, this method of calculation leads to erroneous conclusion when applied over a long period of time. A more accurate measure of the purchasing power is secured by comparing the amount of wages left after paying for the food supply, with prices of non-food products.

Thru the courtesy of Dr. R. G. Hurlin of the Russell-Sage Foundation, average weekly wages of blacksmiths, carpenters, machinists, painters, and compositors were furnished from 1840 to 1920.

The writers have calculated the cost of eight food materials in cities, corn, rye, wheat, hogs, steers, butter, cheese, and sugar. The cost of these items seemed to follow the food cost of living fairly closely. If the cost of the constant quantity of the food materials is subtracted from wages, the balance is a rough approximation of the amount of money available for the purchase of other things. This balance was divided by the cost of non-food materials to obtain an index number of the quantity of non-food materials that wages would buy. (See Figure 1.)

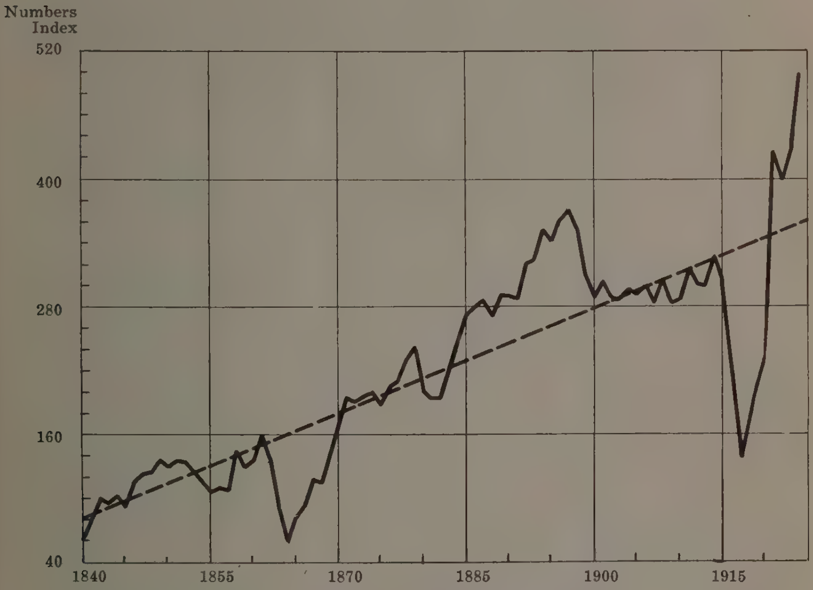

Figure 1.—Purchasing power of wages in terms of prices of non-agricultural products, after a constant quantity of food materials have been purchased, 1840-49=100.

The straight line shows the long time tendency for real wages to rise. The curve shows the violent fluctuations in real wages. Real wages were very high for 18 years ending with 1901, after which they were very low for 19 years ending in 1920. They have since been extremely high for 5 years.

For the past eighty-five years, the average increase in the purchasing power of wages, after paying for a given quantity of food materials, has shown an average increase of 1.5 per cent[1] per year, based on the middle year (1882) as 100. On the average, for recent years, wages have bought over three times as much as in 1840. A small portion of the increase has gone for choicer kinds of foods, but most of it has gone for improvement in well-being as expressed by longer years of schooling, more and better clothing, better housing, more travel, better medical service, and other improvements which distinguish our present civilization from that of eighty-five years ago.

While the purchasing power of wages has had a marked rise, the advance has been exceedingly irregular. During the Civil War period, real wages were very low. This period was followed by a long period when real wages were abnormally high. Real wages were particularly high in the nineties when the agricultural distress reached a climax. Farmers sold food products at ruinously low prices. The long depression in farming and the long period of prosperity of labor, resulted in such a movement to cities that it was followed by the period when the prices of farm products rose rapidly, and the "High Cost of Living" was the chief subject of discussion in cities. During this period, expansion in agriculture occurred, tile drains were laid, fertilizer, spraying, and feeding practices were improved. Greater advances were made in the application of science to agriculture than ever before occurred in any equal priod of time. An unusual number of farm boys remained on the farms, and there was much discussion of a "Back-to-the-Land Movement."

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[1] Equation of secular trend, $y = 3.331x + 219.91$.

The drop in real wages during the World War was even worse than that which occurred during the Civil War. For five years, the purchasing power of the portion of wages left after buying a given quantity of food dropped back to the level of forty years ago. During this period farmers were prosperous. Since the agricultural depression begun in 1920, real wages have risen enormously. After purchasing the same quantity of food as formerly, the purchasing power of the amount remaining was about one-third above normal whereas the purchasing power of farmers is about one-third below normal. The movement to improve agriculture is checked and the demand for automobiles, better houses, and better public improvements is greatly stimulated. Building on farms and other farm improvements have almost ceased. If the normal average rate of increase in real wages were to continue, it will be thirty to forty years before real wages would normally reach the level attained in 1924. It may be that prohibition and other factors have so increased production that the rate of improvement will be greater than formerly. Much of the sudden improvement is, however, at the expense of farmers who are supplying the cities with food at prices so low that production cannot be permanently maintained. A reaction in the future is as certain as was the reaction following the nineties. It may, however, be some years before it comes. The longer it is delayed, the more severe it will be.

The gradual growth in the purchasing power of wages is due to invention and improved technique of industry, but the violent fluctuations are caused by changes in the general price level, which result in sweeping advantages for one or another group in the population. They are accompanied by enormous transfers of wealth from one class to another. At present, we are building cities at the expense of agriculture. In the long run, these transfers between classes balance, but they do not balance between individuals. In the past, one or the other group has sometimes maintained its advantage for 15 or 20 years.

The purchasing power of wages is dependent on wages, prices of food, and other things. Since several factors are involved, and since they do not move together, the real situation is often obscured. For example, from 1915 to 1917, money wages were rising, food and non-food products were both rising rapidly. Real wages fell precipitously. G. F. Warren and F. A. Pearson

SALARIES OF PUBLIC SCHOOL TEACHERS IN NEW YORK STATE

Many states have enacted legislation designed to increase the monetary returns to those engaging in teaching. New York is one of the states that has passed legislation for this purpose. The data contained in this article have been compiled for the purpose of giving definite information regarding the trend in teachers' salaries. The changes that have taken place are not to be attributed entirely to legislation. There is no doubt that the trend of salaries as measured by dollars for the period considered would have been upward regardless of legislation. There is evidence to this effect in the period antedating the enactment of such legislation. It is also true that there are to be found unmistakable responses to the enactment of special salary legislation.

TABLE 1.—AVERAGE ANNUAL SALARIES OF MALE AND FEMALE TEACHERS IN ALL PUBLIC SCHOOLS IN NEW YORK STATE[1]

	Annual Salaries			Index Numbers 1910-14 = 100		
Year	Cities	Towns	State	Cities	Towns	State
1910-14	$1,160	$468	$887	100	100	100
1887	687	262	410	59	56	46
1888	703	268	420	61	57	47
1889	689	270	419	59	58	47
1890	694	285	437	60	61	49
1891	719	292	452	62	62	51
1892	740	298	467	64	64	53
1893	728	304	468	63	65	53
1894	708	306	465	61	65	53
1895	733	311	484	63	66	55
1896	725	309	487	62	66	55
1897	720	315	495	62	67	56
1898	743	315	517	64	67	58
1899	772	318	541	67	68	61
1900	879	322	605	76	69	68
1901	977	329	663	84	70	75
1902	982	337	680	85	72	77
1903	992	345	696	86	74	78
1904	1,000	354	708	86	76	80
1905	1,036	363	736	89	78	83
1906	1,090	368	772	94	79	87
1907	1,088	388	787	94	83	89
1908	1,056	407	784	91	87	88
1909	1,072	423	805	92	90	91
1910	1,093	440	829	94	94	93
1911	1,102	452	839	95	97	95
1912	1,168	466	888	101	100	100
1913	1,230	477	936	106	102	106
1914	1,208	503	941	104	107	106
1915	1,250	514	975	108	110	110
1916	1,221	522	967	105	112	109
1917	1,241	544	988	107	116	111
1918	1,272	587	1,023	110	125	115
1919	1,355	657	1,108	117	140	125
1920	1,531	807	1,279	132	172	144
1921	2,324	1,065	1,892	200	228	213
1922	2,359	1,119	1,938	203	239	218
1923	2,372	1,148	1,960	204	245	221

[1] Twelfth Annual Report of the Department of Education, Vol. I, p. 202, 1916.

In Table 1 are given the annual salaries of teachers, and the index numbers for teachers' salaries for the period from 1887 to 1923 inclusive. The cities include all schools in places having a population of 10,000 or more. It will be observed that the average salaries in cities is materially higher throughout the entire period than is true in towns. An examination of the index numbers, however, shows the increase in towns to be appreciably greater than in cities. When the average salary for the period from 1910 to 1914 is used as the basis, the increase in cities is from 59 in 1887 to 204 in 1923; the corresponding figures for towns are 56 and 245 respectively. This is in agreement with the usual response of wages to rising prices. The groups that receive the lowest pay ordinarily receive increases more promptly. For example, unskilled laborers receive increase in pay more promptly than skilled laborers.

It will be observed by comparing the index numbers for the period from 1887 to 1899, inclusive, that the difference between cities and towns is not pronounced. However, in 1900 a pronounced difference is found. The principal factor in explaining this increase is probably the Davis law which was put in operation in 1899. This was the first minimum salary law to be enacted in New York State and its application was limited to New York City. The size of that city, however, made the results evident in a pronounced increase in the average salary for cities. In 1901 the Ahern law was passed making provision for a still higher salary schedule for New York City. In spite of the fact that there was no legislation affecting teachers' salaries in towns, salaries for towns increased rapidly after 1908.

In 1919, the first general salary legislation was passed becoming effective for the school year 1920. It shows in a rise of the index number for teachers' salaries in both town and city, but it is much more pronounced in the former. The year following the enactment of another law resulted in a further pronounced rise in the index numbers, but this time was marked in case of cities.

TABLE 2.—AVERAGE ANNUAL SALARIES OF MALE AND FEMALE TEACHERS IN ONE TEACHER SCHOOLS IN 57 COUNTIES OF NEW YORK STATE.

	Salaries in Dollars			Index Numbers		
Year	Male	Female	Average	Male	Female	Average
1910-14	406*	358	359	100*	100	100
1910	......	339	339	......	95	94
1911	361	339	340	89	95	95
1912	409	341	343	101	95	96
1913	432	385	387	106	108	108
1914	423	384	386	104	107	108
1915	606	397	403	149	111	112
1916	408	411	411	100	115	114
1917	......	434	434	......	121	121
1918	......	527	527	......	147	147
1919	732	655	660	180	183	184
1920	965	916	919	238	256	256
1921	1,027	993	996	253	277	277
1922	986	978	979	243	273	273
1923	937	910	912	231	254	254

*1911-14 = $406.

As a further means of analysis of the salary situation, Table 2 was prepared showing the average salaries and the index numbers for teachers in common school districts of the state for the period from 1910 to 1923, inclusive. The data in this table were obtained by taking the annual salary paid in a one-teacher school for each of the 207 supervisory districts of the state. It will be observed that while the index number for both were approximately the same in 1910, that the rise of salaries for one-teacher schools was more rapid than for the state as a whole. The pay of teachers in rural schools was very low, but rose even more rapidly than did salaries in cities, so that by 1921 country teachers were receiving 177 per cent above the average for 1910-14. A considerable decline occurred in 1923, whereas the pay in cites steadily increased. The decline was due undoubtedly to the great difficulty farmers experienced in paying taxes. The tax for support of schools is usually the most important tax item for farmers.

G. A. Works

WHAT 100 YEARS HAVE DONE TO FARM TAXES

The accompanying table (1) shows the assessed valuation and tax paid in 1825 and in 1925 on six farms in Dryden township, Tompkins County, New York. The present acreage varies somewhat from that in 1825, but each farm includes the original homestead and each has been identified in the community, thruout the century, as a definite unit.

TABLE 1.

Farm No.	Acres 1825	Acres 1925	Assessed Valuation 1825	Assessed Valuation 1925	Total Tax 1825	Total Tax 1925
1. Valley farm ..	125	91	$520	$3,620	$2.48	$101.44
2. Valley farm..	90	99	490	4,840	2.33	140.36
3. Foothill farm	100	100	500	4,000	2.38	115.20
4. Foothill farm	125	137	605	4,400	2.88	128.92
5. Valley farm....	200	142	910	5,220	4.33	150.98
6. Hill farm........	130	132	720	4,800	3.43	139.20

The six farms are numbered in the table in order of their distance from a railroad village. Farm No. 1 is situated mostly within the limits of an incorporated village. No. 6 is about four miles from a railroad point. All are classed as fairly good farms. The tax in each case includes state, county, and local levies—all real estate taxes paid with the exception of collector's fee which was 1 percent in 1925, unknown for 1825.

The first settlers came into this territory about 1800. By 1825, these particular farms had been established from ten to twenty years, having still a relatively small cleared area. The period from that to the present, therefore, has witnessed most of the clearing of the land, the building of frame houses and barns, the building and rebuilding of school houses and of roads and bridges, the establishment of villages, the building of railroads and telephones, the advent of horse-drawn farm machinery and finally of motorized machinery and of electricity. Farm Number 1, however, is the only one of this group equipped with electricity.

TABLE 2.

Farm No.	Number bushels of wheat* required to pay taxes: 1825	1925	Number days labor* required to pay taxes: 1825	1925
1.	2.5	81.1	5	30
2.	2.4	112.2	5	40
3.	2.4	92.2	5	33
4.	2.9	103.1	6	37
5.	4.4	120.7	9	43
6.	3.5	111.3	7	40
Average	3	104	6	37

*The rates used in Table 2 are taken from contemporary farm records; price received for wheat in winter of 1824 was $1.00; in winter of 1924 was $1.25; current wage for day's labor on highways in spring of 1825 was $0.50; in spring of 1925 about $3.50.

The community advantages enjoyed by these farmers of today over those of 100 years ago represent a remarkable development. On the other hand, the burden of paying for all this development and administration of roads, schools and community betterments has come to be a very serious problem. So much so, in fact, that farm ownership and operation are being materially influenced thereby. The tax situation emphasizes sharply the underlying disparity which exists between prices of farm products and wages. The unanimous judgment of these farmers is that it is impossible to hire labor today and get back a new dollar for the one expended.

Farm Number 1 is now being partially worked on shares while the owner devotes his time to a public office. Farm Number 2, one of the best farms in the township, is practically lying idle except that the hay is cut on shares; the owner, who is an energetic and capable man, works on the highway and at other day labor. Farm Number 3 is owned and occupied by a factory worker, who works the land on a small scale. Farm Number 4 is owned and occupied by a railroad man, whose young sons work part of the land. The owner of farm Number 5 has recently sold off his stock and intends to rent the place and retire. Farm Number 6 yields a modest living from poultry and butter chiefly, all the work being done by the elderly owner and his wife.

A. B. GENUNG

EFFECT OF CHANGING LUMBER PRICES ON CUTTINGS IN FARM WOODLOTS

Increasing demands for lumber accompanied by decreasing supplies have resulted in persistent upward tendencies in the purchasing power of lumber for the last half century. Since 1903 the average annual increase has been 0.55 per cent per year based on the middle-year. Woodlands cut over from 1903 to 1924, as reported in a recent study made in Chenango and Chautauqua counties covering 9,639 acres of woodlots, have increased annually by 1.7 per cent of the 1903 amount. During these years, the purchasing power of lumber and the percentage cut over have alternated above and below their respective trends.

What influence, if any, has the purchasing power of the product on the extent of the operations? A summary of the results obtained are given in Table 1.

TABLE 1.—CHANGES IN THE PURCHASING POWER OF THE PRICE OF LUMBER AND IN THE AMOUNT OF LUMBER CUT IN PHARSALIA TOWNSHIP, CHENANGO COUNTY, AND ELLERY TOWNSHIP, CHAUTAUQUA COUNTY, NEW YORK, 1903--1924.

Period	No. of years	Percent increase in purchasing power over normal trend	Percent increase in cut over the normal trend
1903-1911	9	+ 3	+73
1912-1919	8	— 8	—17
1920-1924	5	+10	+59

For the first 9 years the purchasing power of lumber was 3 per cent above the normal trend, and cutting showed 73 per cent increase over its normal trend. When the purchasing power decreased to an average of 8 per cent below normal from 1912 to 1919 cutting slackened to 17 per cent less than normal. The next upward swing kept purchasing power 10 per cent above normal from 1920, and cutting increased for this period by 59 per cent over normal. From this it would appear that increasing purchasing power for lumber stimulates cutting and contraction of cutting below normal tends to occur with declining purchasing power.

WILLIAM ALLEN

MISLEADING CALCULATIONS OF AGRICULTURAL PURCHASING POWER

Some persons have used index numbers of what the products of agriculture would exchange for now compared with the amount that the products of agriculture 15 years ago would exchange for, to indicate the status of agriculture. Two years ago, data indicating that the farmer's purchasing power was 2 per cent above the 1913 level was widely heralded and lead to vigorous controversy.[1] It is a strange economic theory that assumes that the prosperity of an industry is measured by the purchasing power of the gross value of the product. Such an error is not so serious when two adjacent years are compared, but the figures have no significance when the gross purchasing power of the product at the present time is compared with 10 or 15 years ago.

Figures published in April, 1925, show the index number of exchange value of farm production in terms of non-agricultural products to be 101, when 1910-1914 is taken as 100[2]. It is doubtless true that the approximately one-fifth more production of today would, if sold and the money used to buy non-agricultural commodities, purchase as much as the smaller production of 15 years ago. Such index numbers are misleading because they do not take account of the increase in the production of agriculture and other industries.

A recent publication goes even further and states that, "Our conclusions are that the total farm income of 1923 and 1924 and the purchasing power of that income were on a better basis than in 1913, which in itself was one of the most prosperous years agriculture had seen up to that time. The improvement in the status of farm income compares very favorably with the change in real wages of the average industrial workman as computed by the ablest experts in the field. Agriculture has many particular instances of hardship, but as a whole, it is relatively prosperous. * * *"[3]

The extent of the error can be shown by comparing with the buying power of workers calculated in the same way. Using the total wages and salaries in all industries as published by the National Bureau of Economic Research, and bringing the data down to date with approximate accuracy, it appears that the total wage and salary payments for 1924 would if exchanged for all commodities at the price level of that year, purchase more than twice the pre-war amount of commodities. If such a figure were given out without caution, it would be used to indicate that workers are more than twice as well off as formerly. This ignores the fact that the quantity of work now done is far greater than the quantity of work done 15 years ago, to say nothing of the higher costs of rent and taxes. If persons are to continue to insist on ignoring the increased volume of agricultural production, the doubling of taxation, and the like, then the total buying power of agriculture should not be compared with its pre-war buying power, but with the buying power of the nation. If the buying power of agriculture is no more than it was 15 years ago, while the buying power of the nation has increased over one-third, (the total quantity of products of the nation in 1923 was 44 per cent more than the 1910-1914 average[1]) instead of showing that agriculture is in a normal state, it shows how rapidly the wealth of the Nation is being transferred to cities.

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[1] Tables showing trends in agricultural movements given out as mimeographed sheets at Conference of Agricultural Editor's Association with the Department of Commerce, March 1, 1923; William Johnson, "Figures Do Lie," *Country Gentleman*, Vol. LVIII, No. 16, April 21, 1923; R. J. McFall, Economic Studies (mimeographed), No. 106, July, 1923, p. 4. *New York Times*, Thursday, April 19, 1923, p. 9.

[2] Crops and Markets, United States Department of Agriculture, Vol. 2, Supplement 4, p. 113, April, 1925.

[3] McFall, R. J. Economic Studies. No. 14, p. 2, May 1, 1925 (mimeographed).

G. F. WARREN and F. A. PEARSON

PRICES OF PLOW LANDS

The value of plow lands in the United States continue to decline. Plow lands responded slowly to increased prices of farm products and are responding slowly to the decline. Actual sales are usually at prices much below the index numbers given in Table 1.

In most parts of the United States, it is exceedingly difficult to sell a farm. In New York State, there was comparatively little rise in prices during the war period. In 1920, prices were $64 per acre and have since fallen to $53. The decline in 1924 was $1.00 per acre.

TABLE 1.—INDEX NUMBERS OF THE VALUE OF PLOW LANDS IN THE UNITED STATES, MARCH 1, AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	Index	Year	Index
1900	45	1918	153
1910	93	1919	167
1911	96	1920	202
1912	99	1921	184
1913	103	1922	156
1914	109	1923	142
1915	111	1924	141
1916	123	1925	138
1917	136		

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[1] Day, E. E. The Physical Volume of Production in the United States for 1923. Review of Economic Statistics, Vol. 6, p. 200, July, 1924. (Weights taken from Vol. 3, p. 19.)

G. F. WARREN and F. A. PEARSON

RELATION OF RAINFALL TO YIELDS OF CANNING FACTORY PEAS AND TOMATOES

The relation of the May and June rainfall at Cortland in per cent of normal to the yield of factory peas per acre on all acres grown for one Cortland factory is shown in Table 1. The average yield per acre for the 8 years, 1916 to 1923, was 1,892 pounds, but varied from 1,251 pounds in 1919 to 2,533 pounds in 1920.

TABLE 1.—RELATION OF MAY AND JUNE RAINFALL AT CORTLAND TO AVERAGE YIELD OF PEAS FOR THE CANNING FACTORY

Year	Rainfall in per cent of normal	Yield of peas, per acre	
		Average	Per cent of 8 years' average
1916	110	1,784	94
1917	161	2,021	107
1918	122	2,053	109
1919	91	1,251	66
1920	59	2,533	134
1921	56	2,225	118
1922	223	1,389	73
1923	62	1,876	99

From this it appears that wet years in this region, especially wet Mays result in lower yield of peas per acre than dry years. The normal rainfall at Cortland is 3.87 inches for May and 4.15 inches for June,—exceptionally heavy—so that a sixty per cent of normal rain for Cortland would be almost as much as normally falls in some other regions where peas are grown. Some of the reasons for lower yields in wet years are the loss from root rot, from drowning out on low land, from greater losses in harvesting because of too moist conditions, and from less development of pods.

TABLE 2.—RELATION OF RAINFALL AT CORTLAND, N. Y., TO YIELD OF PEAS FOR THE CANNING FACTORY

	Rainfall in percent of normal Range		
	Less than 90	90-115	Over 115
May rain only:			
Average rainfall in per cent of normal	62	112	140
Number of years included	4	2	2
Average yield per acre in pounds	2006	1902	1652
Yield per acre in per cent of 8 years' average	106	100	88
June rain only:			
Average rainfall in per cent of normal	58	102	286
Number of years included	4	2	2
Average yield per acre in pounds	1971	1918	1705
Yield per acre in per cent of 8 years' average	104	102	90
May and June rain combined:			
Average rainfall in per cent of normal	59	100	169
Number of years included	3	2	3
Average yield per acre in pounds	2211	1518	1821
Yield per acre in per cent of 8 years' average	117	80	96

As a four-year average the yield of late peas for the canning factory delivered to one company in the vicinity of the regions shown in Table 3, was 1,690 pounds per acre, and of early varieties the same years, 1,326 pounds per acre, or 364 pounds per acre less than late varieties. The yield of late peas, therefore, averaged 27 per cent more than early varieties. The variations were from 14 per cent more in 1921 and 1923 to 54 per cent more in 1924. The

17 per cent higher price paid for early peas, and the facts that they can be harvested before the rush of haying, and that coming off earlier than late peas, gives a better opportunity for growth of the seeding, offsets almost, if not entirely, the advantage of a higher yield of late peas.

TABLE 3.—YIELD OF CANNING FACTORY PEAS, EARLY AND LATE VARIETIES IN POUNDS OF SHELLED PEAS PER ACRE

Year	Onondaga County	May and June rainfall in percent of normal	Oneida County	May and June rainfall in percent of normal	Livingston Co.	May and June rainfall in percent of normal	Average	May and June rainfall in percent of normal
Early Peas—								
1921	1,208	99	1,269	76	1,320	58	1,266	78
1922	1,078	321	908	166	1,439	132	1,142	206
1923	1,730	88	1,280	101	1,458	118	1,489	102
1924	1,638	82	1,574	75	1,007	118	1,406	92
Average	1,414		1,258		1,306		1,326	
Late Peas—								
1921	1,304		1,958		1,066		1,443	
1922	1,432		901		2,012		1,448	
1923	1,978		1,721		1,400		1,700	
1924	2,469		2,223		1,816		2,169	
Average	1,796		1,701		1,574		1,690	
Yield of late peas per acre above early peas	382		443		268		364	

Although only four years data are available the same relationship of low yields in wet years and high yields in dry years is shown for Onondaga and Oneida Counties in Table 3. No relationship appears for Livingston County. The yield of early peas was 47 per cent more in the dry years than in the wet years in one area of Onondaga County, and 30 per cent more in one area of Oneida County. The yield of late peas was 63 per cent and 59 per cent more respectively in years when May and June were dry, than when wet.

Since the price of peas is set in advance by contract with the canning companies the value per acre depends almost entirely upon the rainfall, but the price has no relation to the rainfall or size of crop.

The yields of tomatoes for one canning factory in Orleans Co., N. Y., are given in Table 4.

TABLE 4.—YIELD PER ACRE OF TOMATOES IN ONE AREA OF ORLEANS COUNTY, N. Y.

Year	June, July and August rainfall in percent of normal	Pounds per acre
1921	64	17,841
1922	156	16,112
1923	78	11,244
1924	119	15,510

There appears to be no decided relation of rainfall to yield per acre of tomatoes in Table 4.

E. G. MISNER

PRICES OF PUREBRED DAIRY CATTLE

A recent report from the United States Department of Agriculture gives the prices received by 2,730 breeders of purebred dairy animals for 11,404 animals sold by them in 1923, and for 18,428 animals in 1924. The average price received for cows in 1923 was $261, and in 1924 was $171. The depression in the purebred industry was so severe that 10 per cent of the reporting breeders went out of business in one year.

A number of interesting principles of price relationship are shown by the prices received. When animals are high in price, larger numbers are sold at public auction. When prices are low, greater numbers are sold at private sales, as the prices are not sufficient to justify the expense of public auctions. Reporting breeders made 31 per cent of their sales at public auction in 1923, but only 18 per cent in 1924.

As is usually the case when cattle change in price, the young stock changed more than did the cows. On the average, heifers from one to three years of age sold in 1924 brought 58 per cent of the 1923 prices, but cows brought 66 per cent.

TABLE 1.—NUMBER OF ANIMALS SOLD IN 1924 WHEN THE CORRESPONDING SALES IN 1923 WAS 100

	Auction sale	Private sale
Bulls 1 year and under	86	160
Bulls over 1 year, under 3 years	118	169
Females under 1 year	114	206
Females over 1 year, under 3	84	197
Cows	104	234

As a whole, the animals that fell in price most were sold in greatest numbers, presumably because many breeders were compelled to sell. For example, the sales in 1924 for the classes of animals that dropped 2 per cent in price were 79 per cent of previous years' sales. The sales of classes of animals that dropped 32 per cent in price were 59 per cent greater than in 1923. The sales of classes that dropped 48 per cent in price were 304 per cent above the sales for the previous year.

When the depression in the dairy industry began in 1921, bulls fell in price more than any other class of purebred cattle. This checked the raising of bulls and there has been some indication of a short supply. In 1924, bulls fell in price less than other classes of purebred cattle. For example, cows fell 34 per cent, and bulls fell 23 per cent.

Guernsey cattle have dropped much less in price than have the other breeds. Guernsey milk is in greater demand than formerly. It is yellow in color, shows an attractive cream line, and has a higher percentage of butterfat than does the Holstein milk. It is probable that the present unusual demand is due to the same causes that have made lambs relatively high compared with mutton; pork loins high compared with sides; and choice native steers unusually high compared with beef cows. When food is cheap compared with wages, there is an unusual demand for the choicer grades

G. F. Warren and F. A. Pearson

DANISH AND AMERICAN DAIRYING

Some comparisons of Danish and American dairying, calculated from a recent report of the Tariff Commission, are given in the table below.

	Denmark	United States 7 States
Farm costs to produce fat to make one pound of butter not including labor or milk hauling	29.9	30.0
Farm labor	5.1	18.0
Total farm cost not including milk hauling	35.0	48.0

The net farm costs of production in the two countries appear to be equal except in the labor item. Labor per pound is three and a half times as expensive in the United States.

The milk production per cow in Denmark is reported to average 6,300 pounds, of which 5,997 pounds are sold. The cows included in the cost data produced 6,590 pounds per cow. The production in the regions studied in the United States average 4,708 pounds in excess of milk fed to calves, or was probably about 5,000 pounds. One semi-beef area was included so that the average is 400 to 500 pounds below the production in Minnesota and Michigan. The high production in Denmark is not difficult to understand when it is noted that the cows receive an average of over 9 tons of roots, and that many of them are milked three times a day.

At prices paid to farmers, a pound of butter in Denmark would hire a man for nearly 4 hours, whereas a pound as sold by American farmers would hire a man for less than 2 hours. It, of course, follows that the Danish cows are better cared for in every way, and that they respond to the better care. The Dane can afford to give those finer attentions to a cow, for which she responds, with a little more than one-fourth of a pound of butter for an hour of labor. The American must stop when the cow reaches a point where she fails to give half a pound for an hour of labor. When it is possible to spend 3 or 4 hours for a pound of butter, and still make a profit, it is probable that even 4 milkings a day might pay.

Even more striking comparisons can be shown for most other parts of Europe. In Germany, a man will work even longer for a pound of butter. This not only results in much more intensive use of labor, but also results in more hired labor. While American farm wages are very high, compared with wages in European countries, they are very low compared with wages in cities (unless the farm happens to be near a city). In most parts of Europe, the percentage of the labor on the farm done by the farm family is much smaller than is the case on American farms. The American farmer buys machinery, but hires relatively little labor.

G. F. WARREN

MILK PRODUCTION PER COW IN NEW YORK

Milk is sold as cream ,as butterfat, and as whole milk; and is sold by the quart, gallon, and pound. Some is used to feed calves, and some is used on the farm for other purposes. Some farmers keep cows to supply their family needs only, and do not attempt to get any more production than they need. The subject is so complicated that no census of milk production has been satisfactory. In 1910, only three-fourths of the dairymen reported the amount of milk produced, and in 1920 only 89 per cent reported. The question of milk per cow is further complicated by the fact that the cattle are classified by ages. In 1910, all the females 15½ months old or older were in one group. In 1920, the group included those two years old or older. In each case, this number is much more than the number of cows, as the average age at freshening is 27 months. The number of cows and heifers of the ages included are erroneously called cows and the milk produced has been divided by this number to get the milk per cow. This is, of course, incorrect.

For a number of years, this Department has obtained records of sales of milk. G. P. Scoville found the average milk sold per cow for 69,655 cows in many regions in the State to be 5,095 pounds. The average production per cow in New York State is, therefore, about 5,500 pounds.

E. G. Misner has obtained accurate records from farms in seven typical dairy regions. He found the production per cow to average 5,699 pounds, of which 5,348 pounds were sold. The results are shown in Table 1. It will be noted that the production is highest for regions producing Grade A and Grade B milk, and lowest in the cheese-factory region. For economical production of cheese, the cows are carried through the winter with only a small amount of grain. The cows freshen in the spring and produce most of the cheese on grass.

TABLE 1.—PRODUCTION PER COW ON DAIRY FARMS IN NEW YORK YEAR ENDING APRIL 30

Area	Year	Number of farms	Number of cows	Milk produced per cow	Milk sold per cow
Cheese					
Lafargeville, Jefferson County	1922	67	1230	4971	4348
Condensary milk					
Norwich, Chenango County..	1922	83	2073	5272	4996
Newport, Herkimer County....	1919	163	4136	5173	4890
Grade B milk					
Binghamton, Broome County..	1915	149	2058	5532	5089
Earlville, Chenango County.... and Madison County	1922	121	2749	6184	5759
Munnsville, Madison County.. (alfalfa hay)	1922	125	2375	6592	6245
Grade A milk					
Oxford, Chenango County......	1922	84	2088	5724	5452
Tully and Homer, Onondaga and Cortland Cos..............	1922	51	1274	6337	6069
Totals and Averages..........................		843	17983	5699	5348

In farming regions that produced Grade A and Grade B milk, in 1922, the average production was 6,209 pounds. The production in Denmark averages about 6,300 pounds of milk, testing 3.67. The American cows probably average larger and probably have the greater capacity, but they are not fed roots, and since labor is expensive they are not as well cared for. Few cows in New York are milked more than twice a day.

G. F. WARREN

ADJUSTMENT OF MILK PRODUCTION TO PRICES

When prices of milk are high, farmers feed more grain, and may retain the old or otherwise inferior cows for a longer time. These adjustments take place rather quickly. Fundamental changes in the basis of dairying are much slower.

The data given in Table 1 show how the farmers in a hill region in New York, that is marginal for farming, made adjustments in 1924*. Since this is a marginal region, the changes are of the same nature, but more violent than the changes in the better regions. In this township, cows mostly freshen in the spring. The decision as to whether to raise a heifer or not is usually made within a week after it is born. If it is not to be raised, the calf is usually killed before it is a month old. If once started, a change in plans means considerable loss because heifers at several months of age bring little more than they would bring as veal calves. If the price of milk is unfavorable, the farmer usually disposes of the older cows and sells most of the heifer calves that he might raise, but he usually makes little change in the number of heifers and young cows.

TABLE 1.—NUMBER OF COWS AND HEIFERS ON HAND IN A HILL TOWNSHIP IN NEW YORK, 1923-1924

	Number on hand		
	April 30, 1923	April 30, 1924	Percentage change
Cows	881	796	—10
Heifers 1 year or older	119	214	+80
Heifers under 1 year	160	117	—27

The price of milk for the season of the year when most of the cows in this township freshen, that is, February to June, averaged 64 per cent above pre-war prices in 1923. From February to April of the following year, milk prices were only 24 per cent above prewar. The rapid decline in the price of milk resulted in a reduction of 10 per cent in the number of cows, and a reduction of 27 per cent in the number of heifers under one year of age, but there was an increase of 80 per cent in the number of heifers over one year of age. This explains why the dairy industry, like the beef cattle, horse, or hog industry, may have the appearance of expansion at the time it is being curtailed. The real test of the expansion or contraction of the industry is the number of new heifers being started. Once started, they usually go on and become cows. In principle, this is no different from any other industry. The expansion and contraction of the building industry is to be measured not by the number of houses available, nor by the number of new houses being completed, but by the number of new houses being planned or started. In the case of farming, nature's processes are so slow that the facts are frequently misinterpreted.

G. F. WARREN and F. A. PEARSON

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*Data furnished by William Allen.

EFFECT OF THE PRICE OF BEEF ON THE MILK PRODUCTION PER COW

The average cost of raising a heifer up to the time of freshening for four dairy regions in New York in 1921 was $115[1]. The costs varied from $90 to $146 in the different regions.

In recent years, beef has been very cheap. In the four years, 1921 to 1924, beef from dairy cows has been especially cheap. For these years, cattle sold for beef from New York farms averaged 1 per cent below pre-war prices. The cost of raising heifers is very much higher than before the war. Since discarded cows are worth so little for beef, the loss when a cow is discarded is very great. There is no way of knowing that a heifer will make a good cow. Farmers usually raise the heifers from the best cows, but some of these prove to be inferior to their mothers. In the last few years, discarded dairy cows have usually brought from $10 to $40 for beef. The average is probably about $20 per head.

The average loss from raising a cow and selling her for beef because of low milk production is, therefore, about $95. This is unusually high. It is, therefore, to be expected that farmers will be less ready to discard poor cows and raise heifers to replace them. Such an abnormal situation tends to check the rapid increase in milk production per cow which has been taking place for many years. It also emphasizes the unusual care that should be exercised in the selection of a bull, and in the selection of the heifers to be raised.

G. F. WARREN and F. A. PEARSON

THE EFFECT OF TEMPERATURE CHANGES ON THE CONSUMPTION OF MILK IN CHICAGO

The consumption of milk not only responds to the major temperature changes, increasing in summer and decreasing in winter, but it also changes with the day-to-day fluctuations in temperature. The extent to which consumption is affected in the latter way in Chicago was determined by combining the daily purchases of over 400,000 consumers and comparing them with the variations in temperature.[2]

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[1] Misner, E. G. Economic Studies of Dairy Farming in New York, I.
Cornell Univ. Agr. Exp. Sta. Bul. 421, p. 73, 1923.
Economic Studies of Dairy Farming in New York, II.
Cornell Univ. Agr. Exp. Sta. Bul. 433, p. 130, 1924.
Economic Studies of Dairy Farming in New York, III.
Cornell Univ. Agr. Exp. Sta. Bul. 438, p. 104, 1925.

[2] The consumption of bulk milk is much more sensitive than is the consumption of quarts. The variability of the actual consumption from the predicted is also greater for bulk than for bottled milk as is indicated by the coefficient of correlation +.523 ±0.038 between temperature and sales of quarts and .033 ± 0.046 between temperature and bulk sales. This may be due to more irregularity in bulk consumption due to other factors than temperature, or it may be due to inability of those who buy in bulk to forecast consumption accurately.

Correlation Coefficients of Temperature and Sales of Milk for the Summer Period (May to October)[a]

Product	[b]Correlation coefficient	Probable error
Quarts—retail	+0.523	±.038
Pints—retail	+0.567	±.035
Bulk—wholesale	+0.331	±.046

[a] Based on the daily consumption of over 400,000 people during the summer of 1922.

[b] Correlation of the number of degrees that the maximum temperature on a given day varies from the average of the maximum temperatures of the previous seven days and the percentage that the sales of milk on the following day deviate from the average sales of the previous seven days. Sales of milk corrected for secular trend, and for seasonal and day-of-the-week variations.

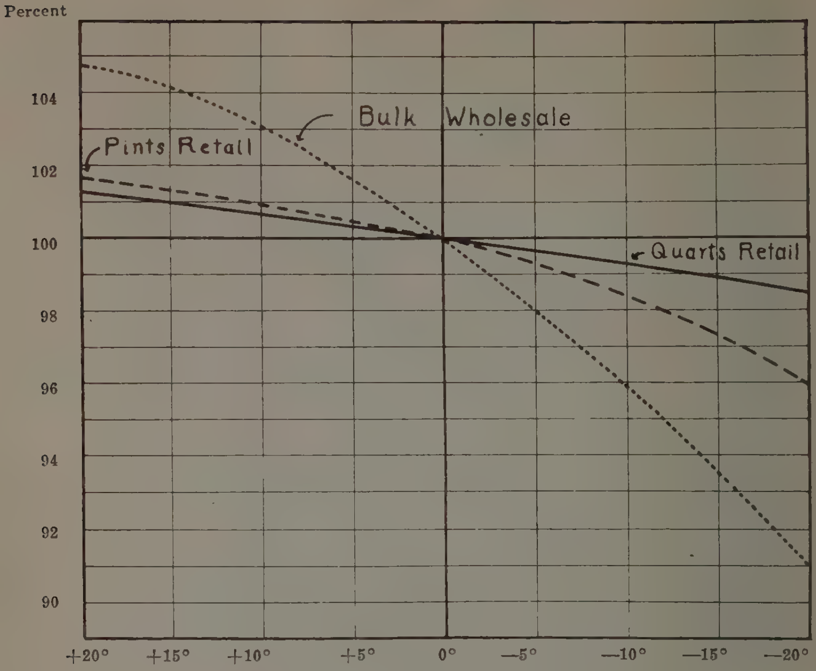

Figure 1.—Effect of Temperature Changes on Sales of Bottled and Bulk Milk. Expressed in percentages of the average sales of the previous seven days.

It may be seen by Table 1 and Figure 1 that quarts of milk are least affected by temperature, pints next, and bulk milk the most. This may be explained largely by the proportion of each that is consumed by adults, particularly as a luncheon drink. The quart trade is mainly for household use, while an appreciable proportion of pints is sold to factory workers, construction laborers and the like who drink it with their lunches. The bulk milk trade in Chicago is, for the most part, with hotels and restaurants and the demand for milk in these places is greatly affected by temperature.

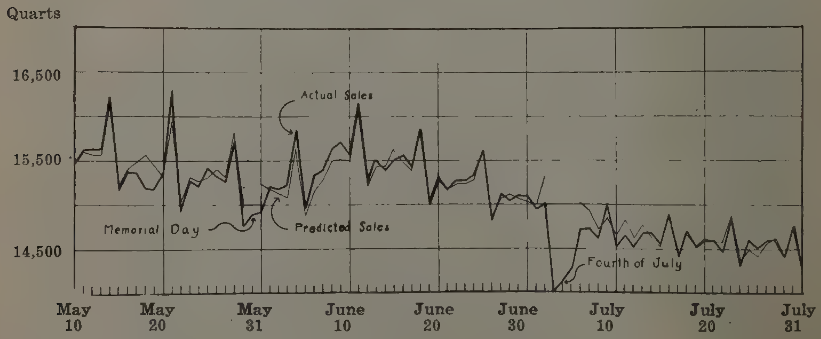

Figure 2.—Comparison of the Predicted and Actual Sales of Quarts of Milk for One Dealer During a Twelve-weeks' Period in 1922

Sales are predicted one day in advance on the basis of temperature

TABLE 1.—EFFECT OF TEMPERATURE CHANGES ON SALES OF BOTTLED AND BULK MILK DURING THE SUMMER PERIOD, MAY TO OCTOBER

Deviation of the maximum temperature on a given day from the average of the maximum temperatures of the previous seven days	Predicted sales for the following day in percentages of the average sales of the previous seven days		
	Quarts retail	Pints retail	Bulk wholesale
degrees	%	%	%
—20	98.4	95.9	91.0
—19	98.5	96.2	91.5
—18	98.6	96.5	92.0
—17	98.7	96.8	92.5
—16	98.8	97.1	93.0
—15	98.9	97.4	93.5
—14	99.0	97.6	94.0
—13	99.1	97.8	94.5
—12	99.2	98.0	95.0
—11	99.2	98.2	95.5
—10	99.3	98.4	96.0
— 9	99.4	98.6	96.4
— 8	99.5	98.8	96.8
— 7	99.5	99.0	97.2
— 6	99.6	99.2	97.6
— 5	99.7	99.4	98.0
— 4	99.8	99.6	98.4
— 3	99.8	99.7	98.8
— 2	99.9	99.8	99.2
— 1	99.9	99.9	99.6
0	100.0	100.0	100.0
+ 1	100.1	100.1	100.4
+ 2	100.1	100.2	100.7
+ 3	100.2	100.3	101.0
+ 4	100.2	100.4	101.3
+ 5	100.3	100.5	101.6
+ 6	100.4	100.6	101.9
+ 7	100.4	100.7	102.2
+ 8	100.5	100.8	102.5
+ 9	100.5	100.8	102.8
+10	100.6	100.9	103.1
+11	100.6	101.0	103.3
+12	100.7	101.1	103.5
+13	100.8	101.2	103.7
+14	100.8	101.3	103.9
+15	100.9	101.3	104.1
+16	101.0	101.4	104.3
+17	101.1	101.5	104.5
+18	101.1	101.6	104.6
+19	101.2	101.6	104.7
+20	101.3	101.7	104.8

[a] From curves fitted to means of arrays by the curvilenear approximation method; Ezekiel, Mordecai. A Method of Handling Curvilinear Correlation for Any Number of Variables. Journal of the American Statistical Association. Vol. XIX, New Series, No. 148, December, 1924.

A sudden drop in temperature of 15 or 20 degrees has a greater effect on demand than a rise of an equal number of degrees. Many people who ordinarily drink milk for lunch, shift to a hot drink on a cold day. Since hot milk is practically unknown, they take tea, coffee, or cocoa and the demand for milk falls in proportion to the number of people making the shift. On the other hand, when a sudden hot day causes the habitual tea- and coffee-drinkers to seek a cold drink, they have many alternative beverages from which to choose and milk gets only a part of this trade.

These variations in demand may be anticipated to some extent. Since most of the milk sold in Chicago is delivered very early in the morning during the summer, a hot or cold day affects the next day's demand rather than the sales for that day. Hence, the amount of milk that is bottled can be varied according to the temperature.

Figure 2 illustrates the use of these data in predicting sales of quarts of milk for one dealer. The sales for the ensuing day are predicted from temperature, taking account of secular trend and seasonal and day-of-the-week variations in demand. No attempt was made to predict the sales on the two holidays included in the period. The actual sales follow the predicted sales very closely for the most part, the average error being three-fourths of one per cent. Sales of pints of milk can be predicted with approximately the same accuracy, but bulk sales are subject to greater error since the correlation is not as high.

H. A. Ross

RELATION OF TEMPERATURE TO RECEIPTS OF MILK AND CREAM AT THE NEW YORK MARKET[1]

In the summer months variations of milk and cream receipts from the normal correspond closely with the variations in temperature. This is shown in Figures 1 and 2 in which the variations in May milk receipts and May cream receipts respectively, are plotted in comparison with variations in May temperature from year to year.

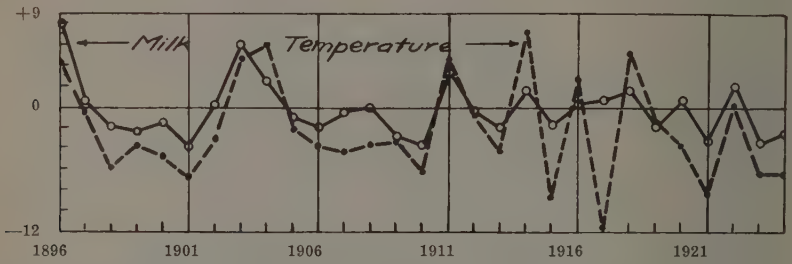

Figure 1. Percentage by which the May temperature at New York City varies from the average and corresponding variations in milk receipts.

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[1] The receipts of milk and cream at the New York market correspond closely with the current consumption of milk, cream and ice cream. The monthly rceipts of milk and cream in 40-quart cans at the New York market for the years 1896 to 1924 were obtained from *The Milk Reporter*. Index numbers of these monthly receipts were computed, using the average receipts for the corresponding months during the five-year period, 1910-1914 as a base. Seasonal variation was eliminated in this way.

The pronounced upward trend in receipts of milk and cream and the longer swings above and below normal were eliminated by taking the deviation of the index number for each month from the average of the index numbers for the precding month and following month. For example, the index number of milk receipts in August, 1924, was 178.8. The index numbers of milk receipts in July and September were 169.9 and 176 1 respectively, the average being 173.0. The deviation of the August index number from this average was +5.8 (178.8 — 173.0 = +5.8). Percentage deviations were obtained by dividing the actual deviations by the average of the index numbers for the preceding month and following month. The percentage deviation of August milk receipts was +3.4 $\left(\frac{+5.8 \text{ x } 100.}{173} = +3.4\right)$.

Monthly mean temperatures at New York for the years 1896 to 1924 were obtained from bulletins issued by the United States Weather Bureau. Index numbers and percentage deviations of the monthly mean temperatures were computed in the same manner as described above for milk receipts and cream receipts.

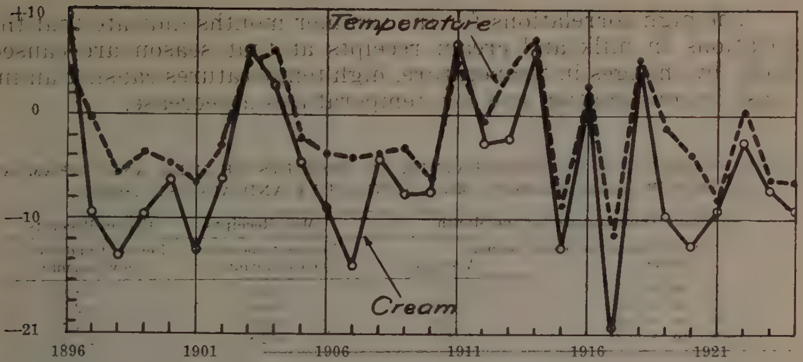

Figure 2. Percentage by which the May temperature at New York City varies from the average and the corresponding variations in cream receipts.

Milk and cream receipts seem to be more closely related to temperature in May than in any other month. There is a marked relationship between cream receipts and temperature at all times of the year, though the relation is less in the winter months. Milk receipts seem to be unrelated to temperature in winter. These facts are shown out in Table 2, in which are given the coefficients of correlation between the variations in milk and cream receipts and the variations in monthly averaged temperature for each month. A correlation coefficient of 1.0 would indicate a perfect relationship, and a correlation coefficient of 0 would indicate that the variations in temperature are unrelated to the variations in milk receipts or cream receipts. A minus correlation indicates a tendency to vary in opposite directions.

VARIABILITY IN DEVIATIONS OF TEMPERATURE MILK RECEIPTS AND CREAM RECEIPTS
(Standard Deviations)

Month	Temperature	Milk Receipts	Cream Receipts
January	11.44	1.44	5.73
February	11.11	2.32	5.14
March	9.71	1.61	5.49
April	5.35	1.25	5.84
May	4.75	2.60	7.25
June	3.71	3.23	6.96
July	2.55	2.66	6.84
August	3.02	2.[illegible]8	6.20
September	3.53	2.1[illegible]	6.57
October	4.26	2.92	5.82
November	7.44	2.29	6.10
December	10.50	1.19	6.03

TABLE 1.—CORRELATION OF VARIATIONS IN MONTHLY MILK RECEIPTS AND CREAM RECEIPTS WITH VARIATIONS IN TEMPERATURE AT NEW YORK.
1896-1924 (29 years)

Month	Milk Receipts and Temperature	Cream Receipts and Temperature
January	+0.33	+0.46
February	+0.06	+0.04
March	+0.28	+0.78
April	+0.67	+0.66
May	+0.76	+0.89
June	+0.69	+0.82
July	+0.68	+0.76
August	+0.75	+0.62
September	+0.46	+0.41
October	—0.01	+0.44
November	+0.04	+0.49
December	—0.19	+0.37

The high correlations for the summer months indicate that the variations in milk and cream receipts at that season are caused chiefly by changes in temperature, high temperatures causing an increase in consumption and low temperatures a decrease.

TABLE 2.—RELATION OF TEMPERATURE TO RECEIPTS OF MILK AND CREAM AT THE NEW YORK MARKET, MAY, JUNE, JULY AND AUGUST, 1896-1924.

Average Temperature for the Month		Milk Receipts	Cream Receipts
Per cent above or below normal		Per cent above or below normal	Per cent above or below normal
Range	Average		
—3.1 to —11.5	—5.0	—2.3	—8.6
—0.1 to — 3.0	—1.1	—0.6	—2.9
0 to + 3.0	+1.4	+0.7	+1.8
+3.1 to + 9.3	+5.1	+2.8	+7.1

The results obtained by sorting the May, June, July and August variations of milk and cream receipts into 4 groups according to the variations in temperature for the same months, are given in Table 2.

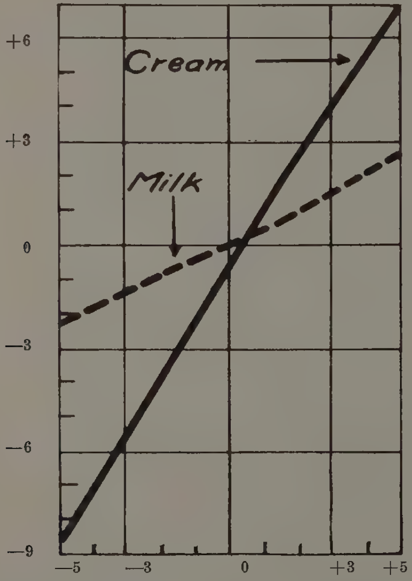

Figure 3. The reciepts of both milk and cream are affected by temperature in the summer, but cream receipts are more affected than are the receipts of milk. A large part of the cream received at New York City at this season is consumed in the form of ice cream, which is used in much greater quantities during periods of high temperatures.

In the summer, cream receipts and milk receipts are usually greater at high temperatures, a temperature 5 per cent above normal being accompanied by milk receipts nearly 3 per cent above normal and cream receipts about 7 per cent above normal. Likewise a temperature 5 per cent below normal tends to be accompanied by milk receipts 2.3 per cent and cream receipts 8.6 per cent below normal. These relations are shown graphically in Figure 3.

PRICES OF EVAPORATED AND CONDENSED MILK

About forty per cent of the milk delivered to country plants in New York State is surplus over that used as fluid milk or cream. About one-third of this surplus is manufactured into evaporated or condensed milk. The wholesale prices of evaporated and condensed milk at New York are closely related to the prices paid to farmers for milk in the region tributary to the New York market. Index numbers of the average wholesale prices by months of several brands of evaporated milk at New York and index numbers of the producers' price of milk in the Utica freight zone* are shown in Figure 1.

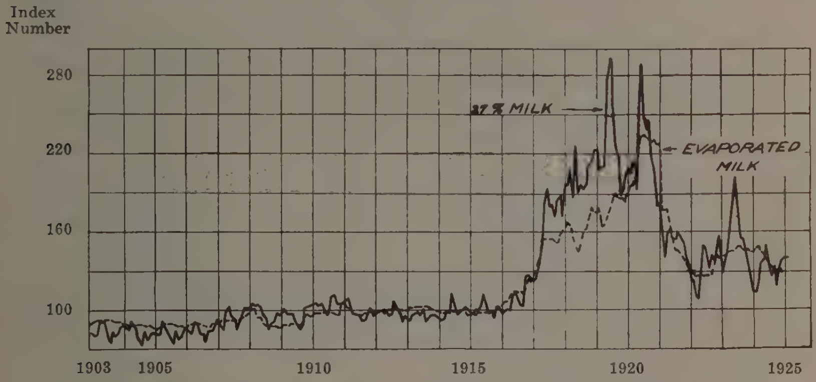

Figure 1.—Index Numbers of farm prices of 3.7 per cent milk at Utica, New York, and index numbers of nine brands of evaporated milk at New York City, 1910-14=100.

The farm price of fluid milk is affected by the value of milk for manufacturing. The index number for prices paid to farmers for milk is the index of the price which milk brought for the month, when the five-year average for 1910-1914 for the month is considered as 100. Since 1914, prices in May and June have been relatively higher than for 1910 to 1914. The commercial ice cream trade has developed largely during the past 10 years. Bulk evaporated milk, and other by-products used in ice cream may be factors affecting the price for May and June.

TABLE 1.—AVERAGE MONTHLY PRICES OF EAGLE BRAND CONDENSED MILK AT NEW YORK CITY[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.	Index Nos. of Aver.
1900	....	....	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75	108
1901	6.75	6.75	6.75	6.75	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.42	103
1902—1914	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	100
1915	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.35	6.26	100
1916	6.50	6.50	6.50	6.50	6.61	6.60	6.60	6.60	6.60	6.71	6.75	6.75	6.60	106
1917	6.75	6.75	7.13	7.25	8.00	8.00	8.00	7.50	7.50	7.50	7.75	8.00	7.51	120
1918	8.00	8.00	8.00	8.00	7.75	7.50	7.50	8.00	8.13	8.50	8.50	9.00	8.07	129
1919	9.00	9.00	8.50	8.50	9.00	9.13	9.75	10.00	10.00	10.00	10.00	10.00	9.41	151
1920	10.00	10.00	10.00	10.13	11.00	11.38	11.50	11.50	11.50	11.50	11.50	11.50	10.96	175
1921	11.50	10.00	10.00	10.00	9.25	8.88	8.50	8.50	8.50	8.50	8.50	8.50	9.22	147
1922	8.50	8.13	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.05	129
1923—1924	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	128

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[1] Wholesale quotations to the jobbing trade. For the years 1900 to 1916 the quotations were taken from the Wednesday issues of the New York *Journal of Commerce*. For the years 1917 to 1924 the quotations were furnished by Borden's Sales Company.

* Fluid milk prices were taken from Cornell Bulletin 416 for the years 1910-1922, and from Farm Economics for the years 1923-1924.

Prices of evaporated milk during the 15 years, 1910 to 1924, fluctuated less than prices of fluid milk. The highest point for evaporated milk was 135 per cent above pre-war, while the fluid milk price reached its peak at 194 per cent above. The seasonal variation in the wholesale prices of evaporated milk is relatively small. Prices for products that can be stored tend to fluctuate less than do those of perishable products.

Twice during the 15 years, a rise in the price of evaporated milk preceded a rise in price of fluid milk. Fluid milk prices lagged behind evaporated prices from August, 1915, to April, 1917. This rise in the price of evaporated milk was probably caused by a diminished supply due to heavy European shipments. From April, 1917, to March, 1920, prices paid to farmers for fluid milk were high relative to wholesale prices of evaporated milk.

With inflation, the fluid milk price lagged behind the general price level and evaporated milk prices. Deflation was quickly reflected in lowered prices paid to farmers. Prices of evaporated milk lagged.

Since January, 1921, evaporated and fluid milk prices have been relatively uniform. Wages in this period have averaged over 100 per cent above the pre-war level. Other manufacturing costs have been relatively high. Prices for evaporated milk averaged 46 per cent above pre-war in 1923, and 38 per cent above in 1924. Normally with the higher manufacturing costs, it would be expected

TABLE 3.—AVERAGE MONTHLY PRICES OF NINE BRANDS OF EVAPORATED MILK AT NEW YORK CITY[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1910-14....	4.50	4.40	4.40	4.36	4.35	4.35	4.36	4.36	4.42	4.44	4.42	4.50	4.41
1900....	......	......	4.00	4.00	4.00	4.00	4.02	4.02	4.02	4.02	4.02	4.05	4.02
1901....	4.05	4.05	4.05	4.05	4.00	4.00	3.99	3.97	3.97	3.97	4.02	3.98	4.00
1902....	3.99	3.98	3.98	3.98	3.98	3.98	4.02	4.02	4.02	4.02	4.05	4.05	4.01
1903....	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05
1904....	4.05	3.96	3.86	3.84	3.83	3.85	3.88	3.88	3.88	3.92	3.92	3.92	3.90
1905....	3.86	3.85	3.85	3.87	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.90
1906....	3.94	3.95	3.95	3.95	3.93	3.93				3.93	3.96	4.06	3.96
1907......	4.06	4.06	4.06	4.06	4.06	4.06	4.06	4.06	4.12	4.23	4.26	4.40	4.12
1908....	4.43	4.50	4.50	4.13	4.13	3.96	3.90	3.90	3.90	3.90	3.90	3.90	4.09
1909....	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	4.00	4.31	4.31	4.31	4.01
1910....	4.31	4.31	4.31	4.31	4.31	4.31	4.31	4.31	4.34	4.32	4.28	4.77	4.35
1911....	4.77	4.50	4.50	4.30	4.24	4.24	4.24	4.24	4.32	4.41	4.41	4.41	4.38
1912....	4.41	4.41	4.41	4.41	4.41	4.41	4.42	4.43	4.46	4.43	4.48	4.48	4.43
1913....	4.48	4.48	4.48	4.48	4.48	4.49	4.51	4.51	4.51	4.51	4.51	4.51	4.50
1914....	4.51	4.31	4.31	4.31	4.31	4.31	4.31	4.32	4.47	4.50	4.41	4.33	4.37
1915....	4.30	4.27	4.28	4.31	4.31	4.31	4.31	4.31	4.39	4.43	4.48	4.58	4.36
1916....	4.72	4.72	4.72	4.89	5.01	5.00	5.00	5.00	5.00	5.18	5.51	5.51	5.02
1917....	5.64	5.82	6.15	6.76	6.76	6.76	6.76	6.76	6.76	6.76	6.99	7.21	6.59
1918....	7.38	7.38	7.33	6.76	6.50	6.30	6.59	7.07	7.19	7.56	7.89	7.89	7.15
1919....	7.89	7.89	7.22	7.28	7.54	7.80	8.12	8.25	8.25	8.25	8.25	8.25	7.92
1920....	8.54	8.63	8.63	8.89	9.71	10.09	10.22	10.22	10.22	10.22	10.22	10.22	9.65
1921....	10.22	7.77	7.77	7.77	7.04	6.69	6.35	6.35	6.35	6.35	6.10	5.85	7.05
1922....	5.85	5.62	5.54	5.54	5.54	5.54	5.54	5.54	5.60	6.05	6.31	6.31	5.75
1923....	6.31	6.31	6.31	6.31	6.31	6.41	6.51	6.51	6.51	6.51	6.51	6.51	6.42
1924....	6.51	6.51	6.51	6.30	6.23	6.13	5.82	5.82	5.82	5.82	5.82	5.82	6.09

[1] Wholesale price quotations to the jobbing trade.

Quotations for the following brands of evaporated milk were taken from the Wednesday issues of the New York *Journal of Commerce*, for the years 1900 to 1916.

Red Cross, Sweet Clover, Dime, Gold Medal, Magnolia, Challenge, Star, Lion, Darling.

Quotations for the Dime, Magnolia, Challenge, Star and Darling brands were furnished by Borden's Sales Company for the years 1917 to 1924. During the five years, 1912-1916, the average of the prices quoted for the latter five brands was 2.7 per cent lower than the average of the prices quoted for the former nine brands. The two series of data were, therefore, adjusted to a comparable basis by multiplying the prices of the five brands during the years 1917—1924 by 1.027.

that evaporated milk prices would be considerably higher than prices paid to farmers for fluid milk.

Prices of evaporated milk at New York and St. Louis are closely related. St. Louis is nearer the main source of production of evaporated milk, and prices there fluctuate more than at New York.

Price quotations of Eagle Brand of condensed milk fluctuate less than do the average prices of evaporated milk. From 1902 to 1915, there was no change in price quotations of this brand. The highest point reached for condensed milk was 84 per cent above prewar, while the price of evaporated milk reached its peak at 135 per cent above. Wholesale price quotations for Borden's Eagle Brand Condensed Milk are given in Table 1.

TABLE 2.—AVERAGE MONTHLY WHOLESALE QUOTATIONS FOR FIVE BRANDS OF EVAPORATED MILK AT ST. LOUIS[1]

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.	Index Nos. of Aver.
1911	4.27	3.92	3.92	3.77		3.73	3.71	3.89	3.90	3.90	3.59	3.70	3.85	102
1912	3.53	3.40	3.40	3.42	3.42	3.45	3.64	3.76	3.72	3.74	3.83	3.85	3.60	95
1913	3.85	3.86	3.87	3.87	3.87	3.89	3.91	3.91	3.95	3.95	3.96	3.97	3.91	103
1914	3.98	3.97	3.95	3.66	3.64	3.65	3.65	3.66	......	3.82	3.69	3.53	3.75	99
1915	3.37	3.58	3.40	3.33	3.27	3.25	3.25	3.27	3.24	3.51	3.51	3.54	3.38	89
1916	3.64	3.64	3.64	3.62	3.73	3.82	3.86	3.88	4.09	4.25	4.65	4.94	3.98	105
1917	5.00	5.00	5.00	5.36	5.58	5.98	6.20	6.20	6.20	6.20	6.10	6.21	5.75	152
1918	6.26	6.16	5.86	5.86	5.86	5.86	5.86	5.86	5.86	......	......	......	5.94	157

[1] Quotations for the following brands of evaporated milk were taken from *The Interstate Grocer* at St. Louis:
Our Pet, Borden's Peerless Evaporated, Carnation, Libbey's and Van Camp's.

TABLE 4.—INDEX NUMBERS OF THE AVERAGE MONTHLY PRICES OF NINE BRANDS OF EVAPORATED MILK AT NEW YORK CITY, CORRESPONDING MONTHS OF 1910-14=100.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1900	......	......	91	92	92	92	92	92	91	90	91	90	91
1901	90	92	92	93	92	92	92	91	90	89	91	88	91
1902	89	90	90	91	91	91	92	92	91	90	92	90	91
1903	90	92	92	93	93	93	93	93	92	91	92	90	92
1904	90	90	88	88	88	88	89	89	88	88	89	87	89
1905	86	87	87	89	90	90	90	90	89	88	89	87	89
1906	88	90	90	91	90	90	....	....	....	88	90	90	90
1907	90	92	92	93	93	93	93	93	93	95	96	98	94
1908	99	102	102	95	95	91	89	89	88	88	88	87	93
1909	87	89	89	89	90	90	89	89	90	97	98	96	91
1910	96	98	98	99	99	99	99	99	98	97	97	106	99
1911	106	102	102	99	97	97	97	97	98	99	100	98	99
1912	98	100	100	101	101	101	101	102	101	101	101	100	101
1913	100	102	102	103	103	103	103	103	102	101	102	100	102
1914	100	98	98	99	99	99	99	99	101	101	100	96	99
1915	96	97	97	99	99	99	99	99	99	100	101	102	99
1916	105	107	107	112	115	115	115	115	113	117	125	122	114
1917	125	132	140	155	155	155	155	155	153	152	158	160	149
1918	164	168	167	155	149	145	151	162	163	170	179	175	162
1919	175	179	164	167	173	179	186	189	187	186	187	183	180
1920	190	196	196	204	223	232	235	234	231	230	231	227	219
1921	227	177	177	178	162	154	146	146	144	143	138	130	160
1922	130	128	126	127	127	127	127	127	127	136	148	140	131
1923	140	143	143	145	145	147	149	149	147	146	147	145	146
1924	145	148	148	144	143	141	134	133	132	131	132	129	138

R. W. BARTLETT

FREIGHT RATES ON MILK

Before 1915, the milk territory tributary to New York City was divided into four freight rate zones.

Zones	Rate in cts. per 40 quart can
1 — 40 miles	23
41 — 100 "	26
101 — 190 "	29
191 — more "	32

In October, 1917, a mileage scale was established which created rate zones ten miles wide. The establishment of these narrow zones resulted in a material increase in the rates from points far distant from the New York City area, and reduced the rates from nearby points. Six months after this mileage scale became effective, all freight rates were advanced 25 per cent. Two years later, in August, 1920, milk rates were again ordered increased 20 per cent. With a few exceptions, rates on milk have not been changed since that time.

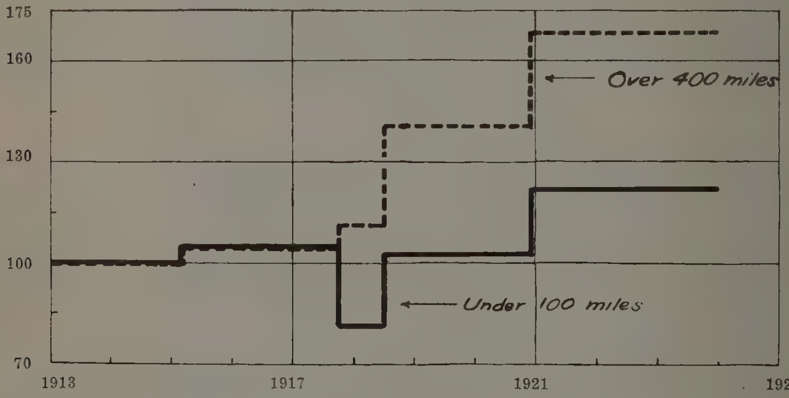

Figure 1.—Index Numbers of Less Than Carload Freight Rates on Milk to New York City, 1913 = 100.

From Goshen and Otisville, N. Y., to New York City, a distance of less than 100 miles, freight rates on milk compared with pre-war are relatively low, compared with pre-war. From Pulaski and Theresa, N. Y., to New York City, a distance of over 400 miles, the rates are high, compared with pre-war.

TABLE 1.—INDEX NOS. OF MILK PRICES AND FREIGHT RATES—1913 = 100

	Index No. of Prices	Index No. of Freight Rates
1913	100	100
1914	103	100
1915	105	104
1916	116	105
1917	171	104
1918	213	112
1919	230	124
1920	229	127
1921	161	148
1922	139	148
1923	156	148
1924	133	148

Average index number of freight rates from 19 New York State points to New York City. Yearly average price of 3.7 milk at Utica.

TABLE 2.—INDEX NUMBERS OF MILK FREIGHT RATES

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1913	100	100	100	100	100	100	100	100	100	100	100	100	100
1914	100	100	100	100	100	100	100	100	100	100	100	100	100
1915	100	101	105	105	105	105	105	105	105	105	105	105	104
1916	105	105	105	105	105	105	105	105	105	105	105	105	105
*1917	105	105	105	105	105	105	105	105	105	99	99	99	104
*1918	99	99	99	99	99	104	124	124	124	124	124	124	112
1919	124	124	124	124	124	124	124	124	124	124	124	124	124
*1920	124	124	124	124	124	124	124	124	127	127	129	148	127
1921	148	148	148	148	148	148	148	148	148	148	148	148	148
1922	148	148	148	148	148	148	148	148	148	148	148	148	148
1923	148	148	148	148	148	148	148	148	148	148	148	148	148
1924	148	148	148	148	148	148	148	148	148	148	148	148	148
1925	148	147	147	147									

*Freight rates from nineteen New York State points to New York City.

The mileage scale took effect in October, 1917.

The decrease in the index number at that time is caused by the preponderance of nearby points from which rates were calculated. The increases in 1918 and 1920 were caused by the percentage increases on all rates.

The milk supply for New York City tends to be procured from points farther and farther distant because of the increased demand resulting from the increase in popupulation and the increase in per capita consumption. As the percentage increases of milk rates are compounded on the rates established by the mileage scale, the rates from more distant points have been increased more than those from nearby points, Table 3. As long as the new supply continues to come from the far points, it must carry these greater increases. This condition must in time have one of three results: lower prices to the producer—higher prices to the consumer—or an increase of production in the nearby zones.

TABLE 3.—INDEX NUMBERS OF MILK FREIGHT RATES—1913 = 100

	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24
Goshen	100	100	104	105	98	88	98	100	117	117	117	117
Cochecton	100	100	104	105	101	99	110	112	133	133	133	133
Otisville	100	100	104	105	100	95	106	108	127	127	127	127
Chatham	100	100	104	105	101	102	114	116	136	136	136	136
Hamden	100	100	104	105	105	118	131	138	152	152	152	152
N. Lebanon..	100	100	104	105	100	97	108	116	130	130	130	130
Whitney Pt..	100	100	104	105	103	111	123	125	148	148	148	148
Little Falls..	100	100	104	105	103	110	122	124	147	147	147	147
Fort Ann......	100	100	104	105	103	111	123	125	148	148	148	148
Mech'icsville..	100	100	104	105	103	111	123	125	148	148	148	148
Oxford	100	100	104	105	104	113	125	127	150	150	150	150
Homer	100	100	104	105	105	117	130	132	156	156	156	156
Hamilton	100	100	104	105	105	118	131	138	152	152	152	152
Earlville	100	100	104	105	105	118	131	133	158	158	158	158
Otego	100	100	104	105	105	118	131	133	158	158	158	158
Waterville	100	100	104	105	105	120	133	135	159	159	159	159
Lowville	100	100	104	105	106	121	134	136	161	161	161	161
Pulaski	100	100	104	105	106	124	138	140	166	166	166	166
Theresa	100	100	104	105	107	129	142	145	170	170	170	170

Freight rates on milk lag behind prices both on the upward and the downward trend. For instance, in 1919, prices had more than doubled since 1913, while freight rates had increased only 24 per cent. In 1924, the reverse was true, prices had decreased to 33 per cent, while freight rates had advanced to 48 per cent above pre-war rates. This condition causes much dissatisfaction as the increased freight rates become effective when the farmers are least willing to see such an advance.

H. S. GABRIEL

COSTS OF PACKING APPLES

The following table shows the average costs of packing a barrel of fruit in 35 cooperative packing associations in western New York during the season of 1922.

TABLE 1.—AVERAGE PACKING COSTS PER BARREL IN 35 ASSOCIATIONS

Item	Cost per barrel	Per cent of total cost
Labor	$0.24	53.2
Management	.03	7.7
Office	.05	11.6
Building	.06	13.8
Equipment	.04	8.6
Power, Light and Heat	.01	1.4
Other costs	.02	3.7
Total	$0.45	100.0

Labor is more than half of the total cost of packing. The second largest item is "Building" costs and amounts to $0.06 per barrel. The "Building" cost is made up of five items that have been aptly called the "dirty five" and are more commonly known as: Depreciation, Interest, Repairs, Taxes, and Insurance.

The "office" cost is high because records must be kept for each grower's fruit. It costs some packing houses more than twice as much as others to pack a barrel of fruit. The most important factor in this wide variation in costs is the volume of business, or the number of barrels of fruit packed.

The following chart shows how packing costs tend to decrease as the amount of fruit packed increases. The packing houses are arranged from left to right in order of the number of barrels packed.

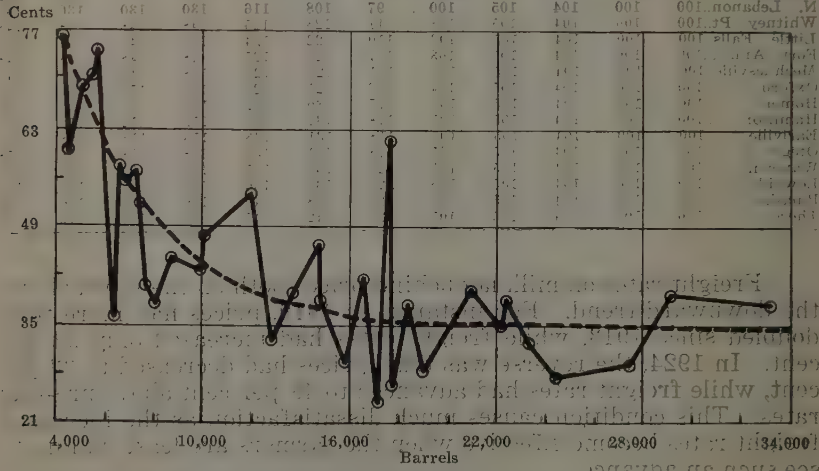

Figure 1. Relation of Packing Costs per Barrel to Volume of Fruit Packed.

As the volume increases the costs of packing decrease. The packing houses with costs below the average line tend to be efficient, while those above tend to be inefficient.

The smooth curve shows the average tendency for costs to decrease as the pack increases. The costs rise rapidly for packing houses packing less than 10,000 barrels of fruit.

One of the associations with a large volume of business was inefficient. Its costs of packing were much higher than those of the other associations, packing about the same volume of fruit. This was due primarily to too large an investment in the packing house. The "building" cost amounted to 18.6 cents per barrel. One other factor which caused this high cost was a large expenditure for management. The association hired a higher-priced man than the volume of business would warrant. The cost of management was 9.3 cents per packed barrel.

One of the associations with a small volume of business was very efficient. Low building costs were the primary factor. This packing house was rented at a cost of only 1.2 cents per barrel.

The amount of culls which must be sorted from a run of fruit also increases the cost of packing. Packing houses that handle fruit with less than 17 per cent of culls had an average packing charge of 36 cents per packed barrel, while those that sorted out from 21 to 44 per cent had an average packing charge of 56 cents per packed barrel.

To handle a large number of varieties also increases packing costs. More than one hundred forty varieties of fruit are sold from western New York. Such a multiplicity of varieties adds to the difficulties of efficient marketing. Sixteen varieties make up 88.5 per cent of the apples handled thru the cooperative associations. This means that all the other odd varieties which cause so much difficulty amount to less than 12 per cent of the crop.

Since 1914, the fruit growers of western New York have invested more than $200,000 in cooperative packing houses. This investment has been made with no precedent to follow, and so mistakes were inevitable. Probably the most serious of these mistakes has been the tendency to put too much money into overhead, especially real estate. The efficiency factors in Table 2 may be a guide to future packing house undertakings. The first column shows the

TABLE 2.—PACKING HOUSE EFFICIENCY FACTORS

Factors	Average	An efficient association
Number of barrels packed	13,825	17,680
Per cent of culls	21.2%	13%
Number of varieties	49	53
Real estate:		
Square feet floor space	5,115	5,000
“ “ per barrel packed	0.40	0.28
Total investment	$7,057	$5,363
Investemnt per barrel	$0.53	$0.30
Annual cost per barrel	$0.078	$0.034
Labor:		
Hours to pack a barrel	.613	.432
Rate of pay for men	$0.37	$0.35
“ “ “ “ women	$0.26	$0.25
Equipment:		
Total value	$1,235	$1,525
Value per barrel packed	$0.09	$0.086
Annual cost per barrel	$0.04	$0.03
Management:		
Management cost per barrel	$0.035	$0.012

average for a group of associations, and the second column shows the same factors for an efficient association. The efficient association packed considerably more barrels than did the average associations. Its investment in real estate is below the average, thus making the real estate cost per barrel less than half the average cost. The equipment value is higher than the average, but because of the larger volume the annual equipment cost is low.

TABLE 3.—COST PER BARREL FOR PACKING APPLES.

The Associations Are Arranged in Order of the Quantity Packed Beginning with Those Packing the Largest Amount of Fruit. They Are Divided Into Three Groups and the Average for Each Group Is Given

Assn.	No. bbls.	Total	Labor	Managem't	Office	Bldg.	Equip.	Pow., Lt. & Heat	Other Costs	Trucking (not in total)
GROUP 1.—OVER 18,000 BARRELS										
1	33,208	$0.379	$0.240	$0.021	$0.039	$0.027	$0.036	$0.003	$0.013	$0.005
2	29,148	.391	.246	.021	.033	.033	.036	.006	.016	.008
3	27,483	.298	.198	.012	.042	.012	.018	.003	.013	.002
4	24,430	.275	.186	.009	.021	.036	.015	.003	.005	.091
5	23,320	.325	.195	.021	.018	.030	.027	.012	.022	.017
6	22,421	.390	.279	.027	.033	.018	.018	.003	.012	......
7	22,102	.345	.201	.039	.036	.024	.024	.009	.012	.009
8	21,137	.400	.246	.018	.039	.045	.030	.006	.016	.017
9	19,035	.285	.183	.018	.030	.012	.024	.003	.015	.015
10	18,408	.385	.213	.021	.027	.066	.033	.009	.016	.029
Average	24,070	.3473	.2187	.0207	.0318	.0303	.0261	.0057	.014	.0193
GROUP 2.—FROM 8,000 TO 18,000 BARRELS										
11	17,680	$0.261	$0.159	$0.012	.027	.018	.030	.003	.012	......
12	17,622	.618	.240	.093	.051	.186	.030	.003	.015	.042
13	17,293	.240	.117	.018	.027	.018	.051	.003	.006	......
14	16,497	.418	.294	.018	.039	.033	.021	.006	.007	.008
15	15,782	.297	.183	.033	.030	.012	.021	.003	.015	.123
16	14,820	.385	.258	.021	.024	.030	.030	.006	.016	.002
17	14,743	.468	.198	.042	.066	.120	.018	.009	.015	.006
18	13,623	.393	.237	.048	.048	.027	.012	.003	.018	......
19	12,912	.321	.228	.015	.018	.033	.015	.003	.009	.030
20	11,893	.537	.276	.036	.060	.114	.036	.003	.012	......
21	10,115	.480	.255	.015	.066	.066	.045	.009	.024	......
22	9,891	.429	.243	.018	.045	.075	.030	.006	.012	.078
23	8,751	.449	.225	.060	.060	.009	.072	.003	.020	.007
Average	13,971	.4073	.224	.033	.0431	.0570	.0316	.0046	.014	.0227
GROUP 3.—LESS THAN 8,000 BARRELS										
24	8,083	.377	.168	.033	.051	.051	.051	.009	.014	.127
25	7,726	.405	.186	.021	.051	.054	.060	.006	.027	.123
26	7,433	.524	.255	.027	.072	.063	.066	.012	.029	.028
27	7,293	.648	.267	.033	.078	.159	.072	.021	.018	.057
28	6,811	.556	.261	.090	.096	.021	.045	.012	.031	.020
29	6,604	.582	.303	.060	.099	.072	.027	.003	.018	.033
30	6,372	.364	.183	.027	.063	.012	.051	.015	.013	.116
31	5,746	.747	.249	.120	.075	.198	.084	.003	.018	......
32	5,401	.709	.282	.048	.084	.165	.084	.015	.031	.008
33	5,233	.695	.351	.042	.102	.120	.051	.003	.026	.058
34	4,476	.595	.279	.039	.069	.132	.060	.006	.010	.065
35	4,156	.768	.405	.051	.117	.102	.045	.009	.039	.009
Average	6,278	.5808	.2657	.0492	.0798	.0958	.058	.0095	.0228	.0537
Average	44,319	.4498	.2369	.0350	.0525	.0627	.0391	.0066	.0170	.0324
Percent. of cost		100	53.2	7.7	11.6	13.8	8.6	1.4	3.7	......

The Table 3 gives all of the costs for each of the thirty-five associations divided into three groups. Group 1 packed more than 18,000 barrels per association. The second group packed from 8,000 barrels to 18,000 barrels. The last group packed less than 8,000 barrels. Trucking is not included in the total cost, as it is a factor due entirely to geographical location, and thus should be eliminated from the comparisons.

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FARM ECONOMICS

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BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	146	86	118	197
1923	157	161	163	155	95	126	214
1924	153	152	146	166	77	83	218
Jan., 1924	154	153	153	163	100	92	219
February	155	156	153	165	102	91	218
March	153	152	151	162	95	91	222
April	151	149	144	156	94	84	218
May	150	148	141	154	88	76	217
June	148	146	141	156	83	70	214
July	150	147	137	164	70	69	214
August	153	151	144	170	58	72	216
September	152	152	145	170	53	79	221
October	155	155	143	169	53	80	217
November	156	157	146	178	58	90	218
December	160	159	152	190	67	101	223
Jan., 1925	163	165	160	201	77	96	223
February	164	166	157	203	80	98	220
March	164	165	159	200	82	93	224
April	159	160	154	201	83	88	218
May	158	160	150	209	82	84	221
June	....	161	148	214	81	....	....

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[1] Copyrighted by Irving Fisher. [2] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York Herald-Tribune. The data as published, are converted to the 1910-14 base by multiplying by 2.05. [3] Data furnished by Harvard Economic Service, corresponding months 1910-1914 = 100. [4] Data furnished by the Department of Labor of New York State, June, 1914 = 100.

BUSINESS CONDITIONS

No striking changes have occurred in business for several months. Interest rates remain very low. Stocks and bonds continue to advance in price. In May the price of 70 industrial stocks were at the highest level ever known, but a new high level was reached in June. Prices of commodities fell rapidly in April, but have risen to some extent. Apparently the effects of low interest rates have now had their full influence. It is not to be expected that, the rapid expansion will continue.

FARM PRICES

Of the major farm products of the United States, corn, wheat, butter and cotton are higher than the general price level. Eggs and hogs are slightly below the general price level, while hay and beef are very low. This is the most favorable general agricultural price relationship that has existed since 1920.

Beans, onions, sweet potatoes, apples, chickens, lambs and wool were higher than the general price level. Oats, barley, rye, buckwheat, flaxseed, horses, veal, calves and sheep are below the general price level.

The winter wheat crop came through the winter in bad condition, but spring wheat is in very good condition, both in the United States and in Canada. Favorable weather since the farm price figures were obtained, has resulted in a striking decline in prices of wheat and corn. Prices of wheat for delivery at Chicago in December has fallen from $1.70 to $1.40.

No product sold by New York farmers is as much above prewar as are the earnings of factory workers. The May price of milk was 59 percent above the five-year pre-war average for May, but earnings of factory workers were 121 percent above the 1914 level.

Hay and potatoes were the lowest priced important products. Both of these are far below pre-war prices. It is probable that the acreage of potatoes has been reduced this year so that some adjustment in the price of potatoes may occur. The poor crop of hay in the western part of New York and in states further west, may to some extent improve hay prices this year, but before hay can become a permanently profitable crop the acreage of it must be reduced.

Although the price of milk in New York for May was better than the price of all farm products in the United States, so many of the products of New York farms were lower than the United States average, that the index of prices paid to farmers in May was 10 points below the United States average. Farm wages in New York State have not declined as much as have wages in other states. The position of the New York farmer is therefore, worse than the general average of the United States. In 1921 and 1922 it was considerably better than the United States average.

For the United States as a whole, the years 1921 and 1922 were the worst years of the agricultural depression, but for New York State, 1924 was the worst year thus far experienced. Of course some individual farmers in New York State who happened to be producing the few products that were high in price, had a good year last year. This statement, given above, is for the state as a whole.

For the United States, non-agricultural products at wholesale prices were 61 percent above pre-war in May. All farm products were 51 percent above pre-war. G. F. Warren

PRICES, 1910-14 = 100

Year	Non-Agricultural Products[1]	Farm Prices		Prices of Food in the United States		
		New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	105	97	99	101	99	103
1914	97	103	101	105	101	105
1915	101	100	101	106	104	104
1916	138	116	119	120	120	118
1917	182	170	180	180	165	151
1918	188	186	206	197	186	173
1919	199	206	215	210	205	192
1920	241	217	214	209	218	209
1921	167	144	119	128	143	158
1922	168	134	124	122	137	146
1923	171	142	137	122	143	151
1924	162	128	140	126	143	150
July, 1923	169	157	134	120	140	152
August	167	149	129	118	141	151
September	167	151	133	122	146	154
October	165	147	138	123	147	155
November	163	143	141	122	147	156
December	162	135	143	123	146	155
Jan., 1924	164	123	143	121	142	154
February	166	123	142	122	142	152
March	166	125	136	119	140	148
April	164	130	135	118	136	145
May	162	129	135	118	136	145
June	159	135	134	119	135	147
July	158	129	138	124	137	148
August	159	133	146	132	143	149
September	158	129	137	129	146	151
October	158	127	145	137	150	153
November	160	134	145	138	152	155
December	163	135	147	141	156	156
Jan., 1925	165	136	154	148	158	159
February	167	136	153	147	155	156
March	165	136	157	152	157	156
April	162	141	152	147	152	155
May	161	141	151	149	152	156
June	....	....	153	151	....	....

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[1] United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Corn, bu.	April	1.038	1.28	167	180
	May	1.075	1.29	166	177
	June	1.110	1.34	164	179
Oats, bu.	April	.447	.60	110	122
	May	.454	.59	110	118
	June	.483	.60	116	118
Wheat, bu.	April	1.405	1.56	158	156
	May	1.491	1.68	166	168
	June	1.527	1.78	168	175
Barley, bu.	April	.761	.92	118	119
	May	.759	.97	117	123
	June	.764	.97	118	121
Rye, bu.	April	1.009	1.16	139	149
	May	1.036	1.20	144	150
	June	1.018	1.18	139	148
Buckwheat, bu.	April	1.041	1.04	144	142
	May	1.133	1.09	155	145
	June	1.123	1.06	148	138
Flaxseed, bu.	April	2.447	....	141	....
	May	2.518	....	143	....
	June	2.468	....	141	....
Beans, bu.	April	3.84	3.90	175	171
	May	3.91	4.20	172	179
	June	4.28	3.75	185	160
Cotton, lb.	April	.237	....	191	....
	May	.230	....	183	....
	June	.230	....	181	....
Hay, ton	April	12.48	12.40	103	80
	May	12.17	12.00	100	76
	June	11.82	12.00	96	74
Onions, bu.	April	2.02	1.72	159	164
	May	2.51	2.00	193	180
	June	2.80	2.59	222	204
Potatoes, bu.	April	.705	.49	104	71
	May	.706	.48	101	67
	June	.844	.50	122	71
Sweet potatoes, bu.	April	1.962	....	211	....
	May	1.891	....	193	....
	June	1.702	....	177	....
Apples, bu.	April	1.580	1.33	138	129
	May	1.790	1.50	146	133
	June	2.010	1.62	164	165
Horses, head	April	83.00	118.00	57	65
	May	82.00	124.00	57	70
	June	81.00	133.00	56	74

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices		Index Numbers	
		United States	New York	United States	New York
Chickens, lb.	April	.211	.254	183	172
	May	.220	.266	186	179
	June	.216	.261	183	172
Eggs, doz.	April	.242	.28	142	133
	May	.248	.28	149	147
	June	.261	.31	156	155
Butter, lb.	April	.397	.46	156	153
	May	.395	.46	160	159
	June	.382	.45	163	161
Milk, 3.7%	April	....	2.385	....	163
Pool price (Utica)	May	....	1.890	....	159
Milch cows, head	April	56.85	73.00	115	129
	May	57.88	77.30	117	139
	June	57.79	77.00	116	135
Beef cattle, cwt.	April	6.55	6.00	119	112
	May	6.48	6.30	118	112
	June	6.46	5.90	119	107
Veal calves, cwt.	April	8.80	10.90	130	141
	May	8.35	9.70	127	132
	June	8.18	10.10	121	128
Sheep, cwt.	April	8.42	6.20	166	136
	May	7.53	5.90	152	137
	June	7.04	6.20	148	146
Lambs, cwt.	April	12.22	13.40	189	196
	May	11.99	12.40	186	190
	June	11.62	12.60	184	190
Wool, lb.	April	.408	.44	227	210
	May	.369	.40	207	200
	June	.357	.38	204	190
Hogs, cwt.	April	11.64	12.60	154	161
	May	10.78	11.90	149	157
	June	10.82	12.10	151	164

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	April	34.30	120
	May	37.60	133
	June	38.30	138
Cottonseed meal, ton	April	52.30	154
	May	52.00	154
	June	51.80	153

PRICES RECEIVED FOR FRUIT IN MIXED AND IN STRAIGHT CAR LOTS

It is difficult to sell a car of mixed varieties on an f. o. b. basis. The trade terms such cars "junk," or "drug-store" cars, and is slow to bid on them. This means that many mixed cars must be sold on a delivered or consigned basis. From long experience, dealers in fruit learned to avoid selling cars on a delivered basis, as it opens the way to a multiplicity of charges which quickly cut down the sale price.

A study was made of the prices received for straight cars and for mixed cars on an f. o. b. and on a delivered basis.

Comparatively few varieties are shipped in straight car loads in any one month. After examining the available data for the 1922 shipping season, it was decided to study prices of Duchess apples in August, Bartlett pears in August and September, Wealthy apples in September, and Baldwins from October thru March. Comparisons were not made unless four or five cars of both mixed and unmixed were shipped. Duchess was the lowest selling, important variety in 1922. Bartlett pears brought the best price of any fruit shipped during the same period. Wealthy is a good medium-priced variety, coming in season at about the close of the Duchess shipping period.

TABLE 1.—COMPARISON OF AUGUST PRICES FOR DUCHESS APPLES IN MIXED AND IN STRAIGHT CARS

Basis of sale and size	Mixed cars Number cars	Mixed cars Average price	Straight cars Number cars	Straight cars Average price	Difference
F. O. B.	7		43		
2¼ inches		$0.64		$0.55	+$0.09
2½ "		.61		.58	+ 0.03
2¾ "		.59		.59	
3 "		.58		.58	
Delivered	3		2		
2¼ inches		.45		.28	+ 0.17
2½ "		.43		.29	+ 0.14
2¾ "		.48		.28	+ 0.20
3 "		.49		.34	+ 0.15
Average	5	$0.535	22.5	$0.436	+$0.098

In 1922, Duchess sold for a lower price than any other variety included in the mixed cars. Mixing Duchess with other varieties tended to raise the price. In other words, the better selling varieties helped to sell the Duchess. Delivered sales brought a markedly lower price than the f. o. b. sales.

Mixing Bartletts with cheaper fruits tends to lower the price received for the Bartletts. During September, the price of Bartletts rose, while other prices did not, and the differential became greater.

TABLE 2.—COMPARISON OF AUGUST AND SEPTEMBER PRICES FOR BARTLETT PEARS IN MIXED AND IN STRAIGHT CARS ON F. O. B. BASIS

Month and size	Mixed cars Number cars	Mixed cars Average price	Straight cars Number cars	Straight cars Average price	Difference
August	9		45		
2 inches		$1.13		$1.20	—$0.07
2¼ "		1.24		1.24	
2½ "		1.24		1.25	— 0.01
September	24		58		
1¾ inches		.78		1.07	— 0.29
2 "		1.15		1.31	— 0.16
2¼ "		1.38		1.40	— 0.02
Average	16.5	$1.177	51.5	$1.267	—$0.09

Wealthy apples were shipped in barrels and in bushel baskets. Mixing other varieties with Wealthies lowered the price received for the Wealthy apples. Cars sold on a delivered basis brought a decidedly lower price than if sold f. o. b.

TABLE 3.—COMPARISON OF SEPTEMBER PRICE FOR WEALTHY APPLES SOLD IN BARRELS AND BUSHEL BASKETS IN MIXED AND IN STRAIGHT CARS

Basis of sale and size	Sold in barrels					Sold in bushel baskets				
	Mixed cars		Straight cars		Difference	Mixed cars		Straight cars		Difference
	No. of cars	Av. price	No. of cars	Av. price		No. of cars	Av. price	No. of cars	Av. price	
F. O. B.	5		4			39		15		
2¼ inches		$2.50		$2.70	—$0.20		$0.77		$0.79	—$0.02
2½ "		2.63		2.72	— .09		.79		.81	— .02
2¾ "		2.62		2.73	— .11		.80		.83	— .03
3 "		2.65		2.70	— .05		.80		.83	— .03
Delivered	4					13				
2¼ inches		1.43					.53		.58	— .05
2½ "		1.54					.57		.73	— .16
2¾ "		1.58					.61		.73	— .12
3 "		1.64					.61		.73	— .12
Average	4.5	$2.074	2	$2.713	$0.113	26	$0.685	8	$0.754	$0.069

The original data showed that three of the mixed cars containing Wealthy apples in bushel baskets brought as high or a higher price per bushel than the best selling straight car. These three cars contained either McIntosh or Snow apples, or Seckel pears all of which bring higher prices than the Wealthy apple. It would seem that the better selling fruit helped to sell the Wealthies, while they in turn had been pulled down in price by the poor apples with which they were shipped.

Few Baldwins were sold on a delivered basis and most of these sales were early in the season. When mixed with other varieties Baldwins brought a lower return. Selling on a delivered basis reduced the price.

TABLE 4.—COMPARISON OF PRICES OF BALDWIN APPLES IN MIXED AND IN STRAIGHT CARS

Basis of sale month and size	Mixed Cars		Straight cars		Difference
	Number cars	Average price	Number cars	Average price	
F. O. B.	14		23		
October					
2½ inches		$3.59		$3.69	—$0.10
2¾ "		3.63		3.68	— .05
3 "		3.66		3.68	— .02
November	20		33		
2½ inches		3.63		3.78	— .15
2¾ "		3.66		3.95	— .29
3 "		3.61		3.90	— .29
December	18		48		.29
2½ inches		3.75		3.94	— .19
2¾ "		3.93		4.21	— .28
3 "		4.11		4.30	— .19
January	22		58		
2½ inches		4.12		4.29	— .17
2¾ "		4.57		4.63	— .06
3 "		4.43		4.65	— .22
February	37		51		
2½ inches		4.20		4.30	— .10
2¾ "		4.51		4.62	— .11
3 "		4.54		4.62	— .08
March	21		73		
2½ inches		4.38		4.61	— .23
2¾ "		4.65		5.10	— .45
3 "		4.72		5.15	— .43
DELIVERED					
October	6		0		
2½ inches		2.88			
2¾ "		2.56			
3 "		2.77			
November	7		3		
2½ inches		2.71		3.60	— .89
2¾ "		2.48		3.67	— 1.19
3 "		2.63		3.54	— .91
Average	18.1	$3.739	36.1	$4.186	$0.305

R. B. CORBETT

PURCHASING POWER OF FARM PRODUCTS FOR 59 YEARS

During the 4 years, 1916-1919, wheat would exchange for 24 percent more of general commodities than it would have exchanged for as a 10-year average before the war. Potatoes were even higher than wheat during the four years of high prices. They had a purchasing power of 29 percent above the 10-year pre-war average. High prices for potatoes resulted in such an expansion of production that coupled with the low demand of the last few years, has resulted in very serious losses to potato growers.

As compared with fifty years ago, the purchasing power of corn has increased more than any other of the farm products listed.

The purchasing power of wheat was highest in the first 20 years of the period covered. It has been fairly stationary except during the last 9 years.

The purchasing power of oats has varied somewhat with the horse cycle, probably because of the tendency to feed horses less oats when horses are cheap. During the war when the purchasing power of other grains rose, oats fell in exchange value. In the last 10 years, oats have declined much more than the general price level and much more rapidly than the other grains. This is doubtless due to the substitution of trucks, autos, and tractors for horse power.

The purchasing power of barley has tended to decline the entire 59-year period, but the decline has been particularly rapid since prohibition laws were passed.

Table 1.—Purchasing power of farm products at prices paid to producers on December 1st.

1906-1915 = 100.

Period	Corn	Wheat	Oats	Barley	Potatoes	Hay
1866-75	76	110	85	122	81	90
1876-85	76	114	88	114	93	86
1886-95	84	96	91	104	103	97
1896-05	80	99	86	86	101	92
1906-15	100	100	100	100	100	100
1916-19	120	125	91	100	129	81
1920-24	74	76	61	60	82	72

Potatoes were fairly steady in purchasing power for 40 years, rose strikingly in the four war years, but have since declined. The average for the past five years is higher than for the grains.

The purchasing power of hay was fairly steady for 50 years, but instead of rising during the war years, declined and has since continued to decline, showing clearly the effects of the substitution of gasoline for horse power.

G. F. Warren and F. A. Pearson

RATIO OF THE PRICE OF CORN TO OTHER FARM PRODUCTS

Fifty years ago a bushel of corn would exchange for 0.46 of a bushel of wheat, but in the last 9 years it would exchange for 0.6 of a bushel. When compared with wheat, corn is worth 33 percent more than it was 50 years ago.

Compared with oats, corn rose slightly in value before the substitution of gasoline for horses. For the last 9 years, a bushel of corn would buy 36 percent more oats than it would buy on the average for the forty-year period ending in 1905. Probably the acreage of oats and corn were in reasonable adjustment to prices during the 40-year period. The lessened demand for oats has thrown the price of oats out of adjustment with the price of corn. Probably this will in time result in adjustment in acreage and it should at once result in some adjustment in feeding practices.

Relative to barley, corn has risen steadily in value, but has risen very rapidly in recent years. For the past 9 years a bushel of corn would have exchanged for almost twice as much barley as it would have exchanged for two generations ago.

Table 1.—Bushels of grain and potatoes and tons of hay that a bushel of corn would buy at farm prices in the United States, December 1st.

Period	Wheat	Oats	Barley	Potatoes	Hay
1866-1875	0.46	1.26	0.61	0.90	0.042
1876-1885	0.44	1.22	0.64	0.78	0.044
1886-1895	0.57	1.28	0.79	0.78	0.043
1896-1905	0.54	1.30	0.90	0.75	0.043
1906-1915	0.65	1.42	1.00	0.94	0.049
1916-1924	0.61	1.72	1.16	0.83	0.060

A bushel of corn would buy somewhat more potatoes than formerly. The ratio of corn to hay has followed much the same course as the ratio of corn to oats.

The steadily increasing value of corn as compared with other crops has been one factor leading to high values for the best corn lands. Apparently farmers must adjust their acreage of oats and hay to the "gasoline age" and must adjust their barley acreage to "prohibition."

Table 2.—Bushels of grain and potatoes and tons of hay that a bushel of corn would buy at farm prices in the United States on December 1st.

Year	Wheat	Oats	Barley	Potatoes	Hay
1866	0.31	1.35	0.67	1.00	0.047
1867	0.39	1.28	0.81	0.87	0.056
1868	0.43	1.12	0.43	0.79	0.046
1869	0.78	1.57	0.84	1.40	0.059
1870	0.52	1.27	0.62	0.76	0.040
1871	0.38	1.20	0.57	0.80	0.030
1872	0.32	1.18	0.51	0.66	0.027
1873	0.41	1.28	0.51	0.68	0.035
1874	0.68	1.24	0.68	0.95	0.049
1875	0.41	1.15	0.49	1.07	0.034
1876	0.35	1.05	0.54	0.55	0.038
1877	0.33	1.22	0.56	0.80	0.042
1878	0.41	1.29	0.55	0.54	0.044
1879	0.34	1.11	0.62	0.85	0.040
1880	0.42	1.10	0.59	0.82	0.034
1881	0.53	1.37	0.77	0.70	0.054
1882	0.55	1.29	0.77	0.87	0.050
1883	0.47	1.30	0.72	1.00	0.052
1884	0.55	1.29	0.73	0.90	0.044
1885	0.43	1.15	0.58	0.73	0.038
1886	0.53	1.23	0.68	0.78	0.043
1887	0.65	1.46	0.86	0.65	0.045
1888	0.37	1.23	0.58	0.85	0.039
1889	0.39	1.25	0.66	0.77	0.035
1890	0.60	1.20	0.80	0.66	0.061
1891	0.48	1.30	0.77	1.12	0.045
1892	0.62	1.23	0.83	0.59	0.043
1893	0.67	1.23	0.89	0.61	0.038
1894	0.92	1.40	1.04	0.85	0.050
1895	0.50	1.29	0.78	0.95	0.026
1896	0.30	1.16	0.71	0.73	0.028
1897	0.32	1.25	0.74	0.48	0.036
1898	0.49	1.13	0.73	0.68	0.043
1899	0.51	1.22	0.77	0.75	0.036
1900	0.57	1.38	0.87	0.83	0.036
1901	0.96	1.51	1.33	0.79	0.061
1902	0.64	1.31	0.88	0.86	0.044
1903	0.61	1.24	0.93	0.69	0.045
1904	0.47	1.41	1.05	0.98	0.049
1905	0.55	1.41	1.04	0.67	0.047
1906	0.59	1.23	0.94	0.78	0.038
1907	0.59	1.14	0.77	0.83	0.043
1908	0.65	1.27	1.09	0.86	0.066
1909	0.60	1.44	1.07	1.08	0.055
1910	0.54	1.40	0.83	0.86	0.040
1911	0.71	1.37	0.71	0.77	0.043
1912	0.64	1.53	0.96	0.96	0.041
1913	0.86	1.76	1.29	1.01	0.056
1914	0.65	1.47	1.19	1.32	0.058
1915	0.63	1.59	1.11	0.93	0.054
1916	0.55	1.70	1.01	0.61	0.079
1917	0.64	1.92	1.12	1.04	0.075
1918	0.67	1.93	1.49	1.14	0.068
1919	0.63	1.91	1.12	0.84	0.067
1920	0.47	1.46	0.94	0.59	0.038
1921	0.46	1.40	1.01	0.38	0.035
1922	0.65	1.67	1.25	1.13	0.052
1923	0.79	1.75	1.34	0.93	0.051
1924	0.76	2.06	1.35	1.53	0.071

While the long-time relationships are as indicated above, the price ratios in any particular year may be decidedly different as shown in Table 2. For example, a bushel of corn would exchange for 0.46 of a bushel of wheat in 1921 and 0.79 of a bushel in 1923. A bushel of corn would exchange for 1.9 bushels of oats in 1919, but only 1.4 bushels in 1921. An examination of Table 2 shows that the ratio of grain prices to each other are decidedly variable from year to year. Because of this fact, a farmer who is on the alert can change his feeding practices so as to reduce costs below what they would be if he fed the same kind of grain regularly. For example, corn, wheat and barley may be used for feeding poultry. The ratio of these makes considerable differences in total cost and the feeding practice may be varied to a considerable extent according to prices.

Changes in cropping systems should not be based on the fluctuation from year to year, but on the long-time averages, as previously discussed.

G. F. WARREN and F. A. PEARSON

COSTS OF PACKING FRUIT ON FARMS

The comparison of sales returns from cooperative associations with those from other channels has caused attention to be focused on the costs of packing. Packing costs are deducted in cooperative associations before the returns are sent the grower. These deductions appeared high to the growers and so the question arose as to what it cost to pack fruit on farms.

One grower kept a daily record of the packing work. This record covered thirty-one days of packing in which 6,195 barrels were packed. The costs are shown in Table 1.

Table 1.—Cost of packing 6,195 barrels of apples in Monroe County, New York, in 1922

	Total costs	Costs per barrel
Labor	$1,486.20	$0.240
Building	180.00	.029
Equipment	79.25	.013
Other	12.00	.002
Total	$1,757.45	$0.284

The record was kept in sufficient detail to divide the total labor cost into the functions of grading or sorting, packing which includes selecting "facers" and "backers" and the facing as well as "running" the barrel, heading and nailing, and other work. The time taken to do each process and the cost per process is shown in Table 2.

Table 2.—Time and labor costs of the processes in packing 6,195 barrels of apples on an orchard in Monroe County, New York, in 1922

	Hours		Cost	
	Total	Per bbl.	Total	Per bbl.
Grading	926	.149	$449.50	$0.073
Packing	1391	.225	627.70	.101
Heading and nailing	600	.097	331.50	.054
Other	310	.050	77.50	.012
Total	3227	.521	$1,486.20	$0.240

This grower has the reputation of being a careful packer, so it is to be expected that his packing costs would be higher than the average. A high percentage of culls, or fruit that must be sorted from that which goes into the pack, tends to increase costs. Approximately 20 percent of this grower's fruit was sorted out as culls.

A second record was received from a grower who kept cost accounts and had an account for his packing work. These costs are shown in Table 3.

Table 3.—Cost of packing 2,584 barrels of apples on a farm in Monroe County, New York, in 1922

	Total costs	Costs per bbl.
Labor	$492.10	$0.190
Building	50.00	.019
Equipment	15.80	.006
Other	9.00	.004
Total	$566.90	$0.219

This grower estimated the time and costs of the packing processes as shown in Table 4.

Table 4.—Time and labor costs of the processes in packing 2,584 barrels of apples on a farm in Monroe County, New York, in 1922

	Hours		Costs	
	Total	Per bbl.	Total	Per bbl.
Grading	500	.194	$150.00	$0.058
Packing and heading	624	.241	262.10	.101
Other	200	.077	80.00	.031
Total	1324	.512	$492.10	$0.190

This second grower also has the reputation of being a careful packer. The culls were only 7 percent of the crop which should tend to materially reduce the costs of packing.

In the summer of 1923, a survey was made in one township in Niagara County of the costs of packing on individual farms. The costs of packing barreled apples, busheled apples, and busheled peaches were obtained and kept separate. Table 5 hows the results from 55 farms which packed a total of 27,734 barrels of apples, or an average of 504 barrels per farm.

Table 5.—Costs of packing 27,734 barrels of apples on 55 farms in one township in Niagara County, New York, in 1922

	Total costs	Costs per bbl.
Labor, 12,635 hours	$5,246.80	$0.189
Building	472.57	.017
Equipment	89.93	.003
Other	11.05	-----
Total	$5,820.35	$0.209

Table 6 gives the costs of packing apples in bushels on 44 farms which packed a total of 33,892 bushels or an average of 770 bushels per farm.

Table 6.—Costs of packing 33,892 bushels of apples on 44 farms in one township in Niagara County, New York, in 1922

	Total costs	Costs per bbl.
Labor, 4,611 hours	$1,884.10	$0.056
Building	447.87	.013
Equipment	20.00	.001
Other	1.80	-----
Total	$2,353.77	$0.070

Table 7 gives the costs of packing peaches in bushels on 53 farms which packed a total of 77,092 bushels, or an average of 1,455 bushels per farm.

Table 7.—Costs of packing 77,092 bushels of peaches on 53 farms in one township in Niagara County, New York, in 1922

	Total costs	Costs per bu.
Labor, 10,189 hours	$4,593.35	$0.059
Building	421.56	.005
Equipment	128.35	.002
Other	46.10	.001
Total	$5,189.36	$0.067

The average cost of packing a barrel of apples as shown by the survey is less than the cost on either farm which kept cost accounts. The two growers who kept cost accounts are more careful packers than the average grower. It took 0.521 hours and 0.512 hours to pack a barrel of apples on the individual farms, while 0.456 hours per barrel was an average for the 55 farms surveyed. The rate of pay per hour was $0.461 and $0.372 on the two farms and $0.415 for the farms in the survey. The percentage of culls for 38 farms in the survey which reported culls was 14.9 percent.

Packing costs in cooperative associations, are cash deductions from the sale price. In so far as a survey in a single township is an indication, a large percentage of farms have practically no cash outlay for packing. Members of the family do all of the packing in more than half of the cases. Table 8 shows the size of crew and family labor used.

Table 8.—Size and make-up of packing crews on farms in one township in Niagara County, in 1922

Factors		Apples in barrels	Apples in bushels	Peaches in bushels
No. of farms		53	41	42
Aver. no. persons per crew		2.3	1.9	2.6
Family did all packing	No. cases	33	28	24
	percent	62.3	68.3	57.1
Operator's wife helped in packing	No. cases	23	18	20
	percent	43.4	43.9	47.6

In calculating the costs of packing on the farms the family labor was charged at the rate given by the operator. Labor is 90 per cent of the total packing cost as shown by the survey. Only 14 growers of the 55 giving records in the survey felt that buildings were used sufficiently to justify a building charge. Packing in the orchard over home-made "still tables" reduces "Building," "Equipment," and "Other" costs to a minimum.

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FARM ECONOMICS

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BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	146	86	118	197
1923	157	161	163	155	95	126	214
1924	153	152	146	166	77	83	218
Jan., 1924	154	153	153	163	100	92	219
February	155	156	153	165	102	91	218
March	153	152	151	162	95	91	222
April	151	149	144	156	94	84	218
May	150	148	141	154	88	76	217
June	148	146	141	156	83	70	214
July	150	147	137	164	70	69	214
August	153	151	144	170	58	72	216
September	152	152	145	170	53	79	221
October	155	155	143	169	53	80	217
November	156	157	146	178	58	90	218
December	160	159	152	190	67	101	223
Jan., 1925	163	165	160	201	77	96	223
February	164	166	157	203	80	98	220
March	164	165	159	200	82	93	224
April	159	160	154	201	83	88	218
May	158	160	150	209	82	84	221
June	161	161	148	214	81	80	220
July	....	164	147	222	75	77	....

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[1] Copyrighted by Irving Fisher. [2] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York Herald-Tribune. The data as published, are converted to the 1910-14 base by multiplying by 2.05. [3] Data furnished by Harvard Economic Service, corresponding months 1910-1914 = 100. [4] Data furnished by the Department of Labor of New York State, June, 1914 = 100.

BUSINESS CONDITIONS

There has been no striking change in business conditions. Some industries are very active, while others have experienced but little prosperity.

The unfilled orders of the United States Steel Corporation are only 80 precent of prewar. The decline in the unfilled orders of the United States Steel Corporation is a better measure of forward buying than the immediate volume of industrial production. Since 1920, there has been a gradual decline in forward buying. The index number of unfilled orders of the United States Steel Corporation in 1920 was 210 percent of prewar, and in 1924 was only 83 percent.

Altho interest rates remain at a low level, the average price of 30 bonds fell 1.4 precent from June 3rd to July 31st. During July the index numbers of industrial stocks rose 8 points above June, the largest rise in any month since January. The peak during the month of July was 227 percent of prewar. The cheap money during the past year, has not resulted in over expansion of industry, nor inflation of prices. It has moved into the security market and produced a 50 percent increase in the price of stocks since last summer. Brokers' loans were estimated to be $2,100,000,000 on July 30th, 1925, which is $400,000,000 greater than existed April 3rd, 1925.* The weekly earnings of factory workers seems to be stable at about 120 percent above prewar.

The slowness of the recovery of Europe is delaying the making of foreign loans and correspondingly is preventing the return of gold to Europe. It is possible that our large gold reserve may result in price inflation in this country, unless the export of gold increases materially. It seems probable that gold exports will ultimately take place and that the prices here will fall, but prices may rise before that takes place.

PRICES OF FARM PRODUCTS

Prices of food at retail are in closer adjustment with farm prices than at any time since 1920. This adjustment has come by a rise in farm prices without a corresponding rise in retail prices. In June, prices paid to farmers were 51 percent above prewar. Food at retail was 60 percent above prewar.

The most striking changes in farm prices this summer are rises in the prices of potatoes and hogs. The average prices paid to farmers for food products in the United States, rose 6 points in July and are now 57 percent above prewar.

At farm prices for the United States, the following products are higher than the general price level: beans, cotton, onions, potatoes, sweet potatoes, chickens, eggs, butter, lambs, wool, hogs. Sheep, wheat and apples are less than 10 points below the general price level. Eleven commodities are more than 10 percent below the general price level. Horses, beef cattle, hay, and oats are important farm products that continue to be cheap. Horses are the cheapest farm product listed. They are worth only about one-half as much as they were before the war.

(Continued on page 326)

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*Wall Street Journal, Vol. LXXXVI, No. 26, p. 1, July 31st, 1925.

PRICES, 1910-14 = 100

Year	Non-Agricultural Products[1]	Farm Prices		Prices of Food in the United States		
		New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	105	97	99	101	99	103
1914	97	103	101	105	101	105
1915	101	100	101	106	104	104
1916	138	116	119	120	120	118
1917	182	170	180	180	165	151
1918	188	186	206	197	186	173
1919	199	206	215	210	205	192
1920	241	217	214	209	218	209
1921	167	144	119	128	143	158
1922	168	134	124	122	137	146
1923	171	142	137	122	143	151
1924	162	128	140	126	143	150
July, 1923	169	157	134	120	140	152
August	167	149	129	118	141	151
September	167	151	133	122	146	154
October	165	147	138	123	147	155
November	163	143	141	122	147	156
December	162	135	143	123	146	155
Jan., 1924	164	123	143	121	142	154
February	166	123	142	122	142	152
March	166	125	136	119	140	148
April	164	130	135	118	136	145
May	162	129	135	118	136	145
June	159	135	134	119	135	147
July	158	129	138	124	137	148
August	159	133	146	132	143	149
September	158	129	137	129	146	151
October	158	127	145	137	150	153
November	160	134	145	138	152	155
December	163	135	147	141	156	156
Jan., 1925	165	136	154	148	158	159
February	167	136	153	147	155	156
March	165	136	157	152	157	156
April	162	141	152	147	152	155
May	161	150	151	149	152	156
June	163	157	153	151	154	160
July	....	....	156	157	....	....

[1] United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

PRICES PAID TO PRODUCERS OF FARM PRODUCTS AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE. INDEX NUMBERS OF PRICES WHEN THE CORRESPONDING MONTHS OF 1910-1914 = 100

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Corn, bu.	May	1.075	1.29	166	177
	June	1.110	1.34	164	179
	July	1.044	1.26	151	166
Oats, bu.	May	.454	.59	110	118
	June	.483	.60	116	118
	July	.453	.59	109	116
Wheat, bu.	May	1.491	1.68	166	168
	June	1.527	1.78	168	175
	July	1.403	1.63	161	161
Barley, bu.	May	.759	.97	117	123
	June	.764	.97	118	121
	July	.735	.91	120	117
Rye, bu.	May	1.036	1.20	144	150
	June	1.018	1.18	139	148
	July	.923	1.19	128	147
Buckwheat, bu.	May	1.133	1.09	155	145
	June	1.123	1.06	148	138
	July	1.157	1.22	146	145
Flaxseed, bu.	May	2.518	....	143	....
	June	2.468	....	141	....
	July	2.276	....	136	....
Beans, bu.	May	3.91	4.20	172	179
	June	4.28	3.75	185	160
	July	3.98	4.00	173	165
Cotton, lb.	May	.230	....	183	....
	June	.230	....	181	....
	July	.223	....	176	....
Hay, ton	May	12.17	12.00	100	76
	June	11.82	12.00	96	74
	July	12.48	12.30	104	77
Onions, bu.	May	2.51	2.00	193	180
	June	2.80	2.59	222	204
	July	2.90	2.90	238	221
Potatoes, bu.	May	.706	.48	101	67
	June	.844	.50	122	71
	July	1.255	.86	169	125
Sweet potatoes, bu.	May	1.891	....	193	....
	June	1.702	....	177	....
	July	1.887	....	206	....
Apples, bu.	May	1.790	1.50	146	133
	June	2.010	1.62	164	165
	July	1.590	1.26	155	143
Horses, head	May	82.00	124.00	57	70
	June	81.00	133.00	56	74
	July	81.00	128.00	57	73

PRICES PAID TO PRODUCERS (Continued)

Commodity	Date	Prices United States	Prices New York	Index Numbers United States	Index Numbers New York
Chickens, lb.	May	.220	.266	186	179
	June	.216	.261	183	172
	July	.214	.269	180	177
Eggs, doz.	May	.248	.28	149	147
	June	.261	.31	156	155
	July	.279	.35	167	159
Butter, lb.	May	.395	.46	160	159
	June	.382	.45	163	161
	July	.392	.46	171	170
Milk, 3.7% Pool price (Utica)	May	....	2.14	....	180
	June	....	2.05	....	192
Milch cows, head	May	57.88	77.30	117	139
	June	57.79	77.00	116	135
	July	57.95	80.70	118	143
Beef cattle, cwt.	May	6.48	6.30	118	112
	June	6.46	5.90	119	107
	July	6.55	6.40	123	117
Veal calves, cwt.	May	8.35	9.70	127	132
	June	8.18	10.10	121	128
	July	8.65	10.60	128	130
Sheep, cwt.	May	7.53	5.90	152	137
	June	7.04	6.20	148	146
	July	7.17	6.10	157	147
Lambs, cwt.	May	11.99	12.40	186	190
	June	11.62	12.60	184	190
	July	11.71	12.50	192	190
Wool, lb.	May	.369	.40	207	200
	June	.357	.38	204	190
	July	.394	.43	225	205
Hogs, cwt.	May	10.78	11.90	149	157
	June	10.82	12.10	151	164
	July	12.02	12.30	166	164

PRICES PAID BY FARMERS IN NEW YORK

Commodity	Date	Prices	Index Numbers
Bran, ton	May	37.60	133
	June	38.30	138
	July	37.70	141
Cottonseed meal, ton	May	52.00	154
	June	51.80	153
	July	52.00	154

Beef cattle are beginning to show some improvement. Apparently the bottom of the beef cycle was reached in the winter of 1921-22. Since the cycle is about sixteen years long and since it has a very flat bottom, it takes several years to make a distinct turn. In each of the previous periods of low prices, there were about six years of very low prices, followed by a shorter period of high prices. In this cycle we have already had six years of low purchasing power and apparently the tide has turned. The index number of prices of beef cattle rose from 2 percent above prewar last December to 23 percent above in July. The fact that the cycle for both beef cattle and hogs, is moving upward, is a very favorable sign for agriculture.

The low yield per acre for potatoes and the small apple and hay crops are also affecting the farm prices this year. The crop prices being due to weather are of course temporary. It is to be expected that hog prices will remain good for another year and prices of beef cattle will doubtless improve materially for several years.

Prices paid to farmers in New York are 57 percent above prewar. The pool price of milk for May was incorrect in the last issue. It is here corrected.

G. F. WARREN and F. A. PEARSON

AUGUST CROP ESTIMATE

Estimates given out by the Department of Agriculture indicate that the condition of all crops combined to be 6.4 percent below the average for the same date for the past ten years. When crop yields are this much short of the average it must result in material price increases. Such price increase should not be interpreted to mean that the present average of crops could be expected to sell for present prices, if yields were normal. The weather has played an important part in the improvement in prices of farm products.

TABLE 1.—Estimated Production of Crops in the United States As Made by the United States Department of Agriculture

	5-yr. average, 1920-24	1924	1925 August estimate
Wheat (bu.)	837,000,000	873,000,000	678,000,000
Corn (bu.)	2,935,000,000	2,437,000,000	2,950,000,000
Oats (bu.)	1,328,000,000	1,542,000,000	1,387,000,000
Barley (bu.)	182,000,000	188,000,000	214,000,000
Buckwheat (bu.)	14,400,000	16,000,000	16,400,000
Potatoes (bu.)	418,000,000	455,000,000	353,000,000
Hay (tons)	107,000,000	112,000,000	91,000,000
Apples (bu.) all	181,000,000	179,000,000	161,000,000
Apples (bu.) (Commercial crop)	30,400,000	28,600,000	30,400,000

The wheat crop for the past five years has averaged 837 million bushels. Last year the crop was large, but as the wheat crop in other counties was short our crop sold for a good price. This year the crop in this country is estimated at 678 million bushels or a decrease of 22 percent. The Canadian crop is, however, estimated to be 39 percent above last year and the world crop is estimated at 2 percent above last year.

The corn crop was very short last year, but now promises to be better than the five-year average. This fact, together with the great decrease in the number of hogs, suggests the probability that corn will be cheaper than last year. If so, this will be a favorable factor affecting the price of dairy feeds.

One of the striking changes in crops is the decrease in hay production. The hay crop last year was large. The estimated production this year is 19 percent less than last year and 15 percent less than the five-year average. The amount of hay held over on farms this year was estimated to be 3,000,000 tons greater than the amount held last year. The total crop plus the amount held over amounted to 125,000,000 tons. This year's estimate of the crop plus the amount held over, 107,000,000 tons, is 14 percent less than the amount available last year.

The hay crop in New York is not as poor as is the crop for the United States as a whole. The rains came in time in New York to improve the crop. In regions farther west and south the damage was very severe.

Perhaps the most striking crop situation is the estimate for potatoes. The drought that injured the hay crop also injured the potato crop. The condition of the crop in the states south of New York is very bad. The total crop is estimated to be 22 percent less than the large crop of last year and 16 percent less than the five-year average. The full employment at high wages, and cheap food has lessened the demand for potatoes so that the rise in prices due to the shortage will not be so extreme as would be the case in ordinary times.

G. F. Warren and F. A. Pearson

SOME TRENDS IN THE NUMBERS OF FRUIT TREES

The trends in the numbers of bearing fruit trees in the Hudson Valley, western New York, and the remainder of New York, are given from 1890 to 1920. For comparison, the same trends for the United States are shown. This gives a forty-year span and presents all of the comparable data that is available for the four regions as given by the United States Census.

Apples

Chart 1 shows the trends in the number of bearing apple trees in each of the four regions mentioned. Apple trees in New York State have been increasing since 1900. The number of bearing apple trees in the part of the State outside of the two fruit growing sections, Western New York and the Hudson Valley, has decreased more than 50 per cent. The percentages on which the trends are based are shown in Table 1.

Peaches

Chart 1 also shows the trends in the number of bearing peach trees. The concentration of New York peach trees in the two fruit regions and particularly in western New York, is marked. In the remainder of the State there has been little change in the number of trees since 1890.

Pears

The number of pear trees outside of the two fruit regions was nearly the same in 1920 as it was in 1890. But in the Hudson Valley there were more than twice as many pear trees in 1920 as in 1890 and in western New York, more than three times as many. The percentages showing the changes in the number of pear trees are shown in Table 1.

Plums and Prunes

Western New York has far outstripped the other sections of the State in the number of bearing plum and prune trees. Contrary to what was true of apples, peaches and pears, that part of the State not in the fruit growing sections has more than kept pace with the Hudson Valley.

TABLE 1.—BEARING FRUIT TREES IN THE SEVERAL REGIONS

	Number trees				Percentages—1890 = 100			
	Hudson Valley	Western New York	Remainder of New York	United States	Hudson Valley	Western New York	Remainder of New York	United States
Apples—								
1890	2,195,543	5,210,836	7,022,002	120,152,795	100	100	100	100
1900	2,620,946	5,313,614	7,120,272	201,794,764	119	102	101	168
1910	1,880,193	4,582,452	4,785,558	151,322,840	86	88	68	126
1920	1,773,231	4,519,894	3,343,573	115,309,165	81	87	48	96
Peaches—								
1890	268,621	591,357	154,132	53,885,597	100	100	100	100
1900	863,689	1,436,938	222,102	99,919,428	322	243	144	185
1910	717,295	1,560,815	179,077	94,506,657	267	264	116	175
1920	489,649	2,378,029	170,345	65,646,101	182	402	111	122
Pears—								
1890	296,561	483,552	393,093	5,115,055	100	100	100	100
1900	505,606	1,150,214	528,089	17,716,184	171	238	134	346
1910	532,759	1,170,768	438,069	15,171,524	180	242	111	297
1920	699,890	1,692,676	386,195	14,647,412	236	350	98	286
Plums and prunes—								
1890	123,712	200,941	179,712	7,078,191	100	100	100	100
1900	117,123	621,386	249,638	30,780,892	95	309	139	435
1910	155,174	491,854	271,989	23,445,009	125	245	151	331
1920	84,408	447,363	214,118	20,452,293	68	223	119	289
Cherries—								
1890	67,218	130,163	194,065	5,638,759	100	100	100	100
1900	129,759	182,505	227,478	11,943,287	193	140	117	212
1910	140,888	281,203	251,898	11,822,044	210	216	130	210
1920	158,466	563,073	305,664	10,787,751	236	433	158	191
All tree fruits—								
1890	2,951,655	6,616,849	7,943,004	191,870,397	100	100	100	100
1900	4,237,123	8,704,657	8,347,579	362,154,555	144	132	105	189
1910	3,426,309	8,087,092	5,926,591	296,268,074	116	122	75	154
1920	3,205,644	9,601,035	4,419,895	226,842,722	109	145	56	118

Cherries

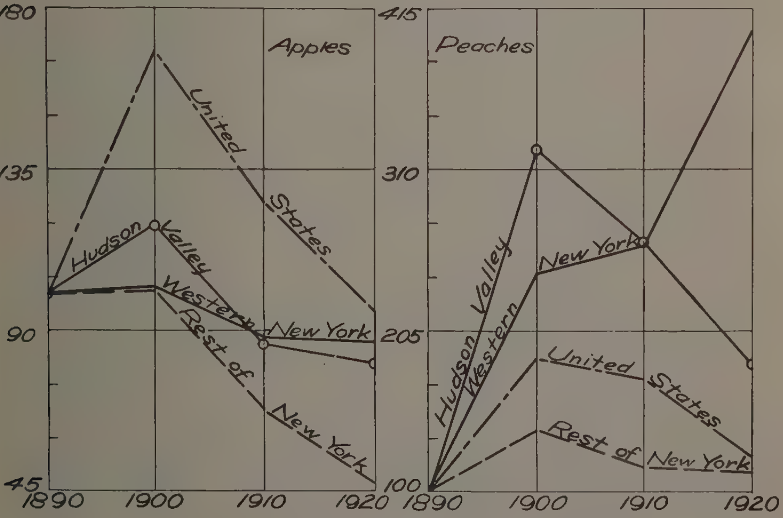
In 1920, the number of bearing cherry trees in western New York was more than four times what it was in 1890. The Hudson Valley had more than doubled the number of bearing cherry trees, while in the rest of the State, the number had increased more than 50 per cent.

All Tree Fruits

Table 1 gives the percentages for all tree fruits. This includes bearing apple, peach, pear, plum and prune, and cherry trees. Over the forty-year span for which there are records, the number of bearing trees in the Hudson Valley and western New York districts have increased. The number of bearing fruit rees in the remainder of New York State decreased until in 1920 there were approximately half as many as in 1890.

Non-Bearing Trees

Table 2 shows the percent that the non-bearing trees were of the bearing trees in 1920 for each of the four regions. In most instances, the western New York area has a lower percentage of non-bearing trees than the other regions. This would indicate a slower rate of increase in orcharding in western New York. The actual number of non-bearing trees in western New York is greater than either in the Hudson Valley or the part of the State outside of the two fruit regions.



PERCENTAGE CHANGES IN NUMBER OF BEARING APPLE AND PEACH TREES

For each region the number of trees in 1890 is considered as 100. All regions show a decrease in the number of apple trees, but the decrease in the Hudson Valley and western New York is less than in the remainder of New York State.

The number of peach trees has increased rapidly in western New York, while the other regions have been declining since 1900.

TABLE 2.—NON-BEARING FRUIT TREES IN THE SEVERAL REGIONS

	Number trees—1920				Percentage of bearing trees—1920			
	Hudson Valley	Western New York	Remainder of New York	United States	Hudson Valley	Western New York	Remainder of New York	United States
Apples	892,696	1,346,190	693,395	36,195,085	50	30	21	31
Peaches	192,927	405,930	60,011	21,617,862	39	17	35	33
Pears	416,591	398,246	152,736	6,052,247	60	24	40	41
Plums and prunes	27,135	97,495	81,072	9,375,268	32	22	38	46
Cherries	67,365	95,103	117,396	3,694,531	43	17	38	34
All tree fruits	1,596,714	2,342,964	1,104,610	76,934,993	50	24	25	34

R. B. CORBETT

LABOR INCOMES ON A WESTERN NEW YORK FRUIT DISTRICT

During the month of June, 1925, labor income records were obtained for 202 farms in the town of Newfane, Niagara County, New York.* This is the twelfth consecutive year that farmers have given records in this region. Some results for the previous eleven years were published in the September, 1924, number of FARM ECONOMICS.

The average labor income of $400, for 1924, was higher than in any year since 1919. About one-fourth of the labor incomes in 1924 were over $1,000. The three largest labor incomes, each over $5,000, were made on large fruit farms. About two-fifths of the labor incomes were minus. That is, the farm expenses and interest on the farm capital exceeded the farm receipts. On the three poorest paying farms, the expenses and interest exceeded the farm receipts by over $2,000.

During the past 12 years, if interest at 5 percent is allowed on their investment, Newfane farmers have received for their time about one-half the wages they paid their year men. If the farmer's time is valued at wages paid their year help, then 3.5 percent was earned on their investment. In order to get 5 percent on their investment and hired men's wages, it would be necessary to reduce the capitalization of these farms 30 percent.

G. P. SCOVILLE

TABLE I—FARM INCOMES

Newfane Township, Niagara County, N. Y.

Year	Number of Farms	Income from Capital and Unpaid Labor	Labor Income allowing 5% on Capital		Interest on Investment allowing farmer's time at hired men's wages
			median	mean	
1913	89	$2,210	$965	$1,212	9.3
1914	98	534	—300	—580	—0.4
1915	81	876	—11	—177	1.6
1916	88	1,157	229	277	3.9
1917	113	1,420	369	534	5.6
1918	159	1,690	531	823	7.1
1919	156	1,451	260	569	4.6
1920	178	1,367	152	267	2.2
1921	171	1,143	4	107	1.9
1922	178	1,307	182	234	2.7
1923	194	760	—164	—270	—0.5
1924	202	1,494	232	400	3.6
12-Year Average	142	$1,284	$204	$283	3.5

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*The writer was assisted in taking these records by M. S. Kendrick, A. E. Anderson and F. F. Hill.

MORTGAGES IN 1913 AND 1924

For 69 farms in Niagara County, records were obtained in 1913 and again in 1924. In 1924, one-fourth more of these farms were mortgaged than in 1913. During this 12-year period, real estate values increased one-fifth, mortgages one-half and interest on mortgages three-fourths.

The farms that did not change hands during the period, or that changed only from one member of the family to another, were in the aggregate mortgaged for about the same amount in 1924 as in 1913. Since real estate values were higher in 1924, the percentage of the real estate mortgaged was less in 1924. The other indebtedness was not recorded in 1913, but was probably greater in 1924.

The mortgaged indebtedness in 1924 on the farms that changed hands during this period was 157 percent greater than in 1913. Since interest rates were higher in 1924, their interest payments were three times more than they were on the same farms in 1913. An even more serious handicap than the large interest payment was the inexperience of many of these new owners. A large proportion of them came from the nearby cities, Buffalo, Tonawanda and Niagara Falls.

TABLE I.—Mortgages on the Same Farms in 1913 and 1924

	Farms that did not change hands	Farms that changed hands	All farms
Number of farms	53	16	69
Percentage of farms mortgaged			
1913	34	69	42
1924	38	100	52
Percentage change from 1913 to 1924 in			
Real estate value	+20	+21	+20
Mortgages	—1	+157	+51
Interest payments	+14	+197	+75
Average value of real estate			
1913	$16,730	11,381	15,489
1924	$20,000	13,736	18,549
Average amount of mortgage			
1913	$5,689	4,627	5,286
1924	$5,060	8,186	6,449

The district as a whole in 1924 was not as well off financially as it was before the war. One would not expect that farmers could maintain their property nor pay off mortgages in a period when they received half the going wages or half the usual interest rates.

G. P. SCOVILLE

WAGES OF FARM LABOR RELATED TO FARM PRICES OF GRAIN AND POTATOES AND TO PRICES OF FARM LAND

In 1866 the cash paid for a month of farm labor would buy 16 bushels of corn at farm prices. In 1921 it would buy 72 bushels of corn. In each case this is in addition to having board furnished.

In 1866 a man could be hired for a month for 5 bushels of wheat. In 1923 it required 36 bushels. In 1866 he could be hired for 16 bushels of potatoes and in 1924 it required 52 bushels. For each of these classes of farm products the quantity that a laborer could buy has increased strikingly over the quantity he could have bought 60 years ago.

TABLE 1.—Relation of Farm Wages to Farm Prices of Farm Products, and Prices of Farm Land in the United States†

Wages are cash paid when board is free. Farm Lands are average values including all improvements

Year	Wheat, bushels	Corn, bushels	Potato, bushels	Land, acres
1866	4.82	15.55	15.57	......
1869	10.69	13.66	19.06	0.44
1874-75	11.23	20.82	20.63	......
1877-79	10.97	31.12	22.12	......
1879-80	11.37	30.47	25.43	......
1880-81	11.49	23.88	17.67	0.65
1881-82	12.41	23.00	17.55	......
1884-85	18.47	38.13	31.00	......
1887-88	16.53	33.90	24.52	......
1889-90	17.40	34.34	23.99	0.62
1891-92	18.52	34.30	26.64	......
1893	25.89	38.58	23.72	......
1894	25.97	28.16	24.01	......
1895	25.35	51.00	48.66	......
1898	22.84	46.80	32.02	......
1899	23.72	46.49	35.01	0.70
1902	24.62	38.68	33.07	......
1906	28.29	47.66	37.02	......
1909	20.81	34.95	37.79	......
1910	22.17	40.79	35.15	0.49
1911	22.71	32.12	24.84	......
1912	26.92	42.01	40.51	......
1913	26.62	30.78	30.96	......
1914	21.20	32.45	42.92	......
1915	22.94	36.66	34.17	......
1916	14.37	25.92	15.77	......
1917	14.26	22.39	23.32	......
1918	17.20	25.73	29.44	......
1919	18.68	29.84	25.17	......
1920	32.87	70.51	41.26	0.68
1921	32.67	71.51	27.48	0.48
1922	29.11	44.54	50.45	0.55
1923	35.85	45.58	42.37	0.68
1924	25.61	33.78	51.85	0.69
1925	....	....	....	0.71
1866-69	7.76	14.61	17.32	......
1870-79	11.19	27.47	22.73	......
1880-89	15.26	30.65	22.95	......
1890-99	23.72	40.89	31.68	......
1900-09	24.57	40.43	35.96	......
1910-19	20.71	31.87	30.23	......
1920-24	31.22	53.18	42.68	......

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†Values of farm lands since 1920 are assumed to have declined at the rate of the decline in prices of plow lands, as reported by the United States Department of Agriculture.

The acreage of farm land that a month's labor would buy is comparatively uniform. In 1880 a month's wages would buy two-thirds of an acre of land, which is about the same amount that it would buy now.

For the five years, 1910-14, a month's wages would buy 0.48 of an acre of land. In 1925 it would buy 0.71 of an acre. Probably the tendency to decline before the war was due to the pressure of population on food supply. The present increase in wages compared with land prices is probably due to maladjustments brought about by financial inflation and deflation. In making these comparisons it should be remembered that farm wages in 1924 were only 63 percent above prewar, whereas the earnings of factory wages is 118 percent above prewar.

G. F. WARREN and F. A. PEARSON

FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE,

CORNELL UNIVERSITY, ITHACA, N. Y.

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BUSINESS CONDITIONS—1910-1914 = 100

Year	General Price Level		Price of 10 basic commodities Harvard	Prices of 70 industrial stocks[2]	Interest rates 4-6 mos. comm'l paper[3]	Unfilled orders U. S. Steel Corporation[3]	Weekly earnings N. Y. factory workers[4]
	U. S. Bureau Labor Statistics	Fisher[1]					
1913	102	....	105	96	113	124	....
1914	100	....	95	96	98	86	....
1915	103	....	105	119	74	109	101
1916	130	....	148	152	70	203	114
1917	181	....	217	140	92	224	129
1918	198	....	242	130	110	181	160
1919	210	....	226	160	102	125	185
1920	231	....	256	144	137	210	222
1921	150	....	125	118	125	112	203
1922	152	....	147	146	86	118	197
1923	157	161	163	155	95	126	214
1924	153	152	146	166	77	83	218
Jan., 1924	154	153	153	163	100	92	219
February	155	156	153	165	102	91	218
March	153	152	151	162	95	91	222
April	151	149	144	156	94	84	218
May	150	148	141	154	88	76	217
June	148	146	141	156	83	70	214
July	150	147	137	164	70	69	214
August	153	151	144	170	58	72	216
September	152	152	145	170	53	79	221
October	155	155	143	169	53	80	217
November	156	157	146	178	58	90	218
December	160	159	152	190	67	101	223
Jan., 1925	163	165	160	201	77	96	223
February	164	166	157	203	80	98	220
March	164	165	159	200	82	93	224
April	159	160	154	201	83	88	218
May	158	160	150	209	82	84	221
June	161	161	148	214	81	80	220
July	163	164	147	222	75	77	220
August	164	163	151	228	70	77	222

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[1] Copyrighted by Irving Fisher. [2] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York Herald-Tribune. The data as published, are converted to the 1910-14 base by multiplying by 2.05. [3] Data furnished by Harvard Economic Service, corresponding months 1910-1914 = 100. [4] Data furnished by the Department of Labor of New York State, June, 1914 = 100.

BUSINESS CONDITIONS

Wholesale prices have shown no striking change during the past six months. Earnings of factory workers also remain very steady. Freight car loadings and other barometers indicate that business continues active. There seems, however, to be little buying for future needs. The unfilled orders of the United States Steel Corporation are low, but the steel output is fairly high.

Money continues to be cheap, altho interest rates are not so low as a year ago. Ultimately the low interest rates should bring about a lowering of rates charged to farmers on farm mortgages. One of the obstacles to the immediate lowering of rates is the disrepute into which agricultural investments have fallen because of the agricultural panic. If farmers should have one or two profitable years, interest rates on farm mortgages would doubtless be lowered. Already there is an increasing interest in farm mortgages as investments.

PRICES OF FARM PRODUCTS

The rise in the prices paid to farmers for food is having an effect on retail prices of food products. From May of last year to July of this year prices paid to farmers for food products rose from 18 percent above prewar to 57 percent above, or rose 39 points. Retail prices in cities rose from 45 percent above prewar to 65 per cent, or 20 points. With farm prices 57 percent above prewar and city wages over double prewar, it is probable that food cannot continue to sell at the present retail prices. There is always a lag in the adjustment of retail prices. Since it seems probable that the average of prices paid to farmers may continue to rise somewhat, and since retail prices are not in full adjustment to present handling charges, a further rise in retail prices of food seems probable.

Wholesale prices of all commodities for August were 63 percent above prewar. The following farm products in the United States were higher than the general price level: wheat, beans, cotton, cotton seed, onions, potatoes, sweet potatoes, apples, chickens, eggs, butter, sheep, lambs and wool. Hogs and cabbage were the same as general price level. The major product that is still below the general price level is beef cattle. The prices of beef cattle have risen considerably above last fall, but are still low. For a number of commodities, the unfavorable weather has been the major factor in the improvement of farm prices.

Average prices paid for all farm products in August, were 60 percent above prewar, only 3 points below the general price level, and like most commodities, far below the level of wages in cities, city real estate, and stocks.

The average prices paid to New York farmers for August were only 56 percent above prewar. One of the most important products of New York is hay, the August price of which was only 89 percent of the prewar average.

The short crop in other states may cause an improvement in hay prices in New York State, but no permanent improvement in the hay situation can occur until the acreage of hay is adjusted to the reduced use of horses, or until the number of cattle increases. The July pool price of milk was 67 percent above prewar.

G. F. WARREN and F. A. PEARSON

PRICES, 1910-14 = 100

Year	Non-Agricultural Products[1]	Farm Prices		Prices of Food in the United States		
		New York[2]	United States[2]	Prices paid to farmers[2]	Wholesale prices in cities[1]	Retail prices in cities[1]
1913	105	97	99	101	99	103
1914	97	103	101	105	101	105
1915	101	100	101	106	104	104
1916	138	116	119	120	120	118
1917	182	170	180	180	165	151
1918	188	186	206	197	186	173
1919	199	206	215	210	205	192
1920	241	217	214	209	218	209
1921	167	144	119	128	143	158
1922	168	134	124	122	137	146
1923	171	142	137	122	143	151
1924	162	128	140	126	143	150
July, 1923	169	157	134	120	140	152
August	167	149	129	118	141	151
September	167	151	133	122	146	154
October	165	147	138	123	147	155
November	163	143	141	122	147	156
December	162	135	143	123	146	155
Jan., 1924	164	123	143	121	142	154
February	166	123	142	122	142	152
March	166	125	136	119	140	148
April	164	130	135	118	136	145
May	162	129	135	118	136	145
June	159	135	134	119	135	147
July	158	129	138	124	137	148
August	159	133	146	132	143	149
September	158	129	137	129	146	151
October	158	127	145	137	150	153
November	160	134	145	138	152	155
December	163	135	147	141	156	156
Jan., 1925	165	136	154	148	158	159
February	167	136	153	147	155	156
March	165	136	157	152	157	156
April	162	141	152	147	152	155
May	161	150	151	149	152	156
June	163	157	153	151	154	160
July	164	150	156	157	156	165
August	....	156	160	160	158	165

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[1] United States Bureau of Labor Statistics.

[2] Corresponding months 1910-1914 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Flaxseed bu.	Beans bu.	Cotton bu.	Hay ton	Onions bu.	Potatoes bu.	Sweet Potatoes bu.
1910-14	c.	c.	c.	c.	c.	c.	c.	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	26.8	13.28	169	87.0	137.0
August	107.4	49.1	116.8	75.7	123.9	210.2	3.52	27.8	12.95	169	111.3	151.4
September	109.7	47.1	114.2	75.6	118.8	201.2	3.72	22.2	12.68	162	81.0	157.0
October	108.9	48.9	129.7	81.4	111.6	210.8	3.72	23.1	12.64	156	68.8	148.5
November	99.6	47.4	133.6	79.7	106.8	222.7	3.81	22.6	12.91	153	64.0	132.2
December	105.6	50.6	141.1	76.2	104.6	235.8	3.91	22.0	12.69	154	64.1	140.1
1925												
January	112.0	54.0	162.1	82.4	107.0	271.8	4.08	22.7	12.70	164	70.2	145.5
February	114.5	53.4	169.8	84.8	112.2	275.3	4.27	23.0	12.83	194	72.3	160.2
March	112.1	49.7	164.0	81.5	112.4	267.8	3.91	24.5	12.39	189	71.4	180.8
April	103.8	44.7	140.5	76.1	104.1	244.7	3.84	23.7	12.84	202	70.5	196.2
May	107.5	45.4	149.1	75.9	113.3	251.8	3.91	23.0	12.17	251	70.6	189.1
June	111.0	48.3	152.7	76.4	112.3	246.8	4.28	23.0	11.82	280	84.4	170.2
July	104.4	45.3	140.3	73.5	115.7	227.6	3.98	22.3	12.48	290	125.5	188.7
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buckwheat	Flaxseed	Beans	Cotton	Hay	Onions	Potatoes	Potatoes
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
August	151	122	137	132	160	123	153	222	112	151	125	157
September	150	120	131	128	159	118	162	182	109	162	101	168
October	155	125	148	135	154	126	165	191	109	162	99	175
November	157	123	152	133	149	137	170	187	111	159	107	173
December	181	130	164	126	147	152	171	180	103	152	106	194
1925												
January	192	140	185	135	152	168	181	185	108	159	112	185
February	192	135	190	133	158	161	192	189	107	172	110	192
March	185	124	184	130	159	154	179	198	103	159	107	207
April	167	110	158	118	144	141	175	191	103	159	104	211
May	166	110	166	117	155	143	172	183	100	193	101	193
June	164	116	168	118	148	141	185	181	96	222	122	177
July	151	109	161	120	146	136	173	176	104	238	169	206
August	150	101	177	117	142	134	174	187	106	215	175	203

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples	Horses	Chickens	Eggs.	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
	bu.	head	lb.	doz.	lb.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
August	122.0	79	20.0	26.1	37.7	55.74	5.67	7.94	6.32	10.15	33.5	8.54
September	110.0	78	19.8	31.8	38.2	55.54	5.53	8.09	6.30	10.18	35.5	8.50
October	116.0	77	19.4	38.2	38.8	54.30	5.52	8.22	6.32	10.35	37.3	9.45
November	120.0	76	18.5	45.8	39.3	55.05	5.43	7.89	6.39	10.55	40.1	8.62
December	128.0	73	17.9	49.9	41.8	54.00	5.35	7.84	6.84	10.96	42.2	8.39
1925												
January	145	73	18.5	48.6	41.3	54.81	5.63	8.50	7.86	12.69	42.8	9.31
February	151	78	19.1	35.7	38.7	54.79	5.69	8.87	8.41	13.13	43.2	9.62
March	155	81	20.0	23.9	39.5	56.19	6.18	9.21	8.20	13.48	43.0	11.83
April	158	83	21.1	24.2	39.7	56.85	6.55	8.80	8.42	12.22	40.8	11.64
May	179	82	22.0	24.8	39.5	57.88	6.48	8.35	7.53	11.99	36.9	10.78
June	201	81	21.6	26.1	38.2	57.79	6.46	8.18	7.04	11.62	35.7	10.82
July	159	81	21.4	27.9	39.2	57.95	6.55	8.65	7.17	11.71	39.4	12.02
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
August	154	56	167	152	160	113	106	115	143	179	188	114
September	157	56	166	165	155	112	103	115	144	181	205	112
October	168	56	164	171	150	109	104	117	147	188	218	128
November	166	55	162	180	147	110	104	114	150	193	233	124
December	166	54	166	166	148	108	102	113	157	193	244	125
1925												
January	150	53	173	164	145	116	112	125	171	219	231	132
February	147	55	175	136	142	115	111	131	185	221	234	135
March	143	56	179	111	153	115	117	133	171	217	230	160
April	138	57	183	142	156	115	119	130	166	189	227	154
May	146	57	186	149	160	117	118	127	152	186	207	149
June	164	56	183	156	163	116	119	121	148	184	204	151
July	155	57	180	167	171	118	123	128	157	192	225	166
August	166	57	173	174	169	118	123	128	166	208	214	163

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buckwheat	Beans	Hay	Onions	Potatoes	Apples	Cabbage
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	bu.	cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	73	2.28	15.42	105	69	103	1.03
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.35
August	126	64	131	96	130	3.60	15.00	155	110	151	2.60
September	129	60	130	90	115	4.00	14.80	134	85	95	1.80
October	133	61	137	86	100	3.90	14.30	121	68	100	1.59
November	128	59	148	89	104	3.80	13.60	113	53	109	1.47
December	134	60	153	91	101	4.00	13.80	124	56	119	1.93
1925											
January	135	63	174	95	102	4.10	13.00	136	59	120	1.94
February	136	66	188	101	110	4.40	13.40	152	61	125	2.00
March	143	61	185	96	121	4.40	12.60	156	55	130	1.78
April	128	60	156	92	104	3.90	12.40	172	49	133	1.60
May	129	59	168	97	109	4.20	12.00	200	48	150	3.60
June	134	60	178	97	106	3.75	12.00	259	50	162	2.70
July	126	59	163	91	122	4.00	12.30	290	86	126	4.30
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Potatoes	Apples	Cabbage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
August	164	125	136	125	160	146	102	148	125	219	194
September	159	122	135	118	151	162	98	165	96	153	207
October	168	130	141	115	135	160	94	155	99	164	289
November	166	128	153	119	144	158	91	147	95	168	306
December	179	128	156	121	140	165	90	151	88	161	297
1925											
January	188	140	176	127	144	175	85	168	92	148	240
February	192	140	188	135	153	188	88	171	88	144	230
March	201	130	185	125	170	190	81	144	81	144	163
April	180	122	156	119	142	171	80	164	71	129	155
May	177	118	168	123	145	179	76	180	67	133	308
June	179	118	175	121	138	160	74	204	71	165	211
July	166	116	161	117	145	165	77	221	125	143	172
August	156	108	157	117	131	171	89	210	211	188	224

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cwt.	Milk cows head	Veal calves cwt	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
August	120	24	35	43	1.89	68.00	10.30	5.30	5.30	11.40	38	8.80
September	118	23	41	44	2.10	68.00	10.50	5.70	5.70	11.40	42	8.80
October	116	24	50	45	2.11	70.00	11.00	5.70	5.70	11.20	41	9.60
November	112	22	62	44	2.51	68.00	10.60	5.20	5.30	11.10	41	9.50
December	114	22.8	63	48	2.66	66.00	11.40	5.30	5.80	11.90	45	10.00
1925												
January	110	24.3	57	46	2.67	70.00	12.00	5.40	6.60	14.00	50	10.20
February	115	24.0	48	45	2.55	68.00	11.50	5.70	7.00	13.60	51	10.50
March	114	25.1	31	45	2.51	69.10	11.50	5.50	6.50	14.00	48	11.30
April	118	25.4	28	46	2.39	73.00	10.90	6.00	6.20	13.40	44	12.60
May	124	26.6	28	46	2.14	77.30	9.70	6.30	5.90	12.40	40	11.90
June	133	26.1	31	45	2.05	77.00	10.10	5.90	6.20	12.60	38	12.10
July	128	26.9	35	46	2.10	80.70	10.60	6.40	6.10	12.50	43	12.30
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	93
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	73	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
August	67	152	140	154	125	120	121	94	123	180	190	114
September	67	147	152	147	132	119	120	101	140	185	200	111
October	66	155	167	145	118	125	124	100	140	187	195	121
November	64	152	177	138	134	121	120	95	135	184	195	128
December	65	165	154	141	139	117	130	97	134	193	214	136
1925												
January	64	179	150	135	140	130	142	103	158	218	227	137
February	66	171	150	136	140	125	137	108	166	213	232	140
March	65	177	111	145	149	124	138	106	152	217	229	146
April	65	172	133	153	163	129	141	112	136	196	210	161
May	70	179	147	159	180	139	132	112	137	190	200	157
June	74	172	155	161	192	135	128	107	146	190	190	164
July	73	177	159	170	167	143	130	117	147	190	205	164
August	69	162	160	164	156	137	130	110	135	188	215	155

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[1] Net pool price of 3.5% milk at Utica, N. Y.

CROP CONDITIONS

The government's forecasts of the hay crop have increased in the latter part of the summer. In the northeastern states there has been a good second growth. The total hay crop last year plus the hold-over was 125,000,000 tons. This year, the hold-over plus the September estimate of production is 109,000,000 tons, or 13 percent less than last year. The demand for hay from the South should be good and prices undoubtedly will not be so low as last year.

The United States potato crop is 82 percent of the 5 year average. The average condition for the United States fell slightly in August due to drought. The production in New York State is estimated at 16 percent below the five-year average and 28 percent below last year's excessive crop.

The apple crop of the United States is now estimated at 11 per cent below the five-year average and 9 percent below last year.

The total yield of corn, oats and barley is now estimated to be 1 percent above the five-year average and 12 percent above last year. The corn crop has been injured by the dry weather this past month. The total of these three crops indicate that the combined feed crops will be greater than last year. The demand for hog feed will be less, because of the smaller number of hogs. It seems probable that grain feeds will decline in price for some time. This is also indicated by the future prices of corn on the speculative markets.

TABLE 1—UNITED STATES CROP CONDITIONS

Crop	5 years 1920-1924	1924 December estimate	1925 September forecast	1925 September percent 5-yr. average
Hay, tons	107,000,000	112,000,000	94,000,000	87.9
Potatoes, bu.	418,000,000	455,000,000	344,000,000	82.3
Apples, bu.	182,000,000	179,000,000	162,000,000	89.0
Wheat, bu.	837,000,000	873,000,000	700,000,000	83.6
Feed grains, lb. (corn, oats, barley)	216,000,000,000	195,000,000,000	219,000,000,000	101.4

As a whole the weather has been quite unfavorable for crop growth this year, but the supply of feed grain will be fairly good.

The yield per acre for all crops is estimated by the United States Department of Agriculture to average 6.7 percent below the 10-year average. The reduced yields, because of unfavorable weather, are equivalent in their effect on prices to the addition of 7,000,000 people to the population, or another New York City. Since normal weather is to be expected, lower prices in the fall of 1926 are probable.

G. F. WARREN and F. A. PEARSON

FARM MANAGEMENT SURVEYS IN NEW YORK STATE

The accompanying table* presents a summary of all the records taken by this department and cooperating agencies. In all, 9,371 records have been taken. The first Farm Management survey was taken in Tompkins County in 1908 under the direction of Dr. Warren. The results were published in Cornell Bulletin 295. The next year a similar study was made in the five northern towns in Livingston County. In 1911, five towns in Jefferson County were surveyed. The results of these were published in Cornell Bulletin 349. From 1912 to 1916 the Chemung County Farm Bureau obtained nearly a thousand records, and some of the results of this study were published in Circular 7, of the "Farm Bureaus of New York State." Many County Farm Bureaus cooperated with the Farm Management Department, and about three thousand records were taken in 1914 and 1915. The Niagara County survey has been continued each year since 1913. Farms in Dryden Township, Tompkins County, and in Livingston County were resurveyed ten years after the first records were taken. Since 1921 several dairy regions have been surveyed under the direction of Dr. Misner. In these dairy regions a study of the cost of producing milk was combined with the labor income schedule. Some of the results of these surveys have been published in Cornell Bulletins 421, 433, and 438.

Capital includes the value of all farm property, land, buildings, stock, feed and tools. The average amount at the beginning and at the end of the year is used as the capital invested in the business.

Receipts include all money received from the sale of farm products, outside work, rent of farm buildings, and the like. When the capital was greater at the end of the year than at the beginning the difference was considered a receipt.

Expenses include all farm cash expenses. If the inventory was less at the end of the year than at the beginning this loss was included with expenses. In the aggregate, inventory changes are relatively small. The value of board furnished hired help was included in the expenses.

Unpaid labor is included at the amount it would cost to hire it at the usual farm wages. It does not include the farmer's own work.

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*Most of the farms for which records were obtained were located in the following townships: *Albany*, Guilderland, Bethlehem; *Allegany*, Wellsville, others scattered. *Cattaraugus*, Little Valley; *Cayuga*, scattered about county; *Chautauqua 1913 to 1916*, Sherman, Chautauqua, Ellington; *1923* Ellery; *Chenango 1915*, New Berlin, Columbus; *1921 Condensery*, Norwich, Plymouth; *1921 Grade A Milk*, Oxford, Greene; *1923* Pharsalia; *Chemung Hill 1911-15*, Baldwin, Big Flats, Catlin, Chemung, Elmira, Erin, Van Etten, Veteren; *1917* Veteren; *Chemung Valley 1911-15*, Big Flats, Horseheads, Southport, Ashland, Chemung; *1917*, Big Flats, Horseheads; *Clinton*, Peru, Ausable, Plattsburg; *Cortland and Onondaga*, Homer, Tully; *Dutchess*, East Fishkill, Pine Plains, Pleasant Valley; *Franklin*, Bangor; *Herkimer*, Danube, Stark; *Jefferson 1910*, Adams, Watertown, Pamelia, Orleans, Rodman; *1914*, Lyme, Cape Vincent; *1921*, Orleans, Clayton; *Livingston*, Avon, Caledonia, Lima, Geneseo, York; *Madison*, Stockbridge, Eaton; *Madison and Chenango*, Hamilton, Smyrna, Sherburne; *Monroe*, Henrietta, Mendon; *Montgomery*, Canajoharie, Minden; *Nassau*, North Hempstead, Oyster Bay; *Niagara*, Newfane; *Oneida*, New Hartford, Paris, Kirkland, Marshall; *Orange*, Wallkill, Crawford; *Oswego*, Mexico, Richland, *Otsego*, Burlington, Edmeston; *Saratoga*, Ballston, Charlton; *Schoharie 1915*, Jefferson; *1915-1916*, Cobleskill, Sharon, Seward; *St. Lawrence*, Gouverneur, Fowler; *Tompkins 1907*, Ithaca, Dryden, Danby, Lansing; *1914-1915*, Ulysses; *1917*, Dryden; *Ulster*, New Paltz, Plattekill.

AVERAGES PER FARM FROM FARM BUSINESS SURVEYS IN NEW YORK STATE

County	Major Sources of Income	Year	Number of farms	Acres	Number of Cows	Capital		Cash Receipts	Cash ex-penses	Unpaid family labor	Net return on capitol and operators labor	Labor income Interest 5%	Rate paid year men[1]	Interest on capital. Farmers time valued at wages
						Total	Real Estate							
Albany	Milk, hay, cattle, rye, apples	1916	52	124	9.9	$11,393	$8,424	$2,981	$1,619	$224	$1,138	$568	$498[2]	5.6%
Allegany	Milk, cattle, potatoes	1914	80	149	9.5	8,521	5,929	1,632	731	133	768	340	507	3.1
Cattaragus	Milk, cattle	1914	70	132	10.8	6,751	4,896	1,277	574	66	637	299	372	3.9
“	“ “	1915	65	154	12.4	7,520	5,391	1,478	651	107	720	344	460	3.5
Cayuga	Milk, hay, cattle, wheat, potatoes	1914	62	140	5.3	13,872	10,506	2,787	1,321	101	1,365	671	450	6.6
Chautauqua	Milk, butter, eggs, cattle	1913	90	124	13.5	7,887	5,315	2,024	947	154	923	530	400	6.6
“	“ “ “ “	1914	161	126	13.0	8,240	5,591	1,797	897	118	782	370	387	4.8
“	“ “ “ “	1915	69	132	13.2	8,447	5,565	1,918	959	128	831	409	334	5.9
“	“ “ “ “	1916	38	130	14.0	8,773	5,486	2,487	1,340	122	1,025	586	464	6.4
“	Milk, cattle, work off farm	1923	76	123	10.9	6,190	4,170	1,523	1,000	226	297	—13	666[3]	—6.0
Chenango	Milk, cattle, eggs	1915	38	149	19.9	10,574	6,747	2,715	1,676	92	947	418	390	5.3
“	Condensary milk, cattle	1921	83	180	25.0	12,943	9,207	3,157	2,462	226	469	—178	549	0.6
“	Grade A milk, cattle, eggs	1921	84	194	24.9	13,040	8,887	4,161	2,982	228	951	299	725	1.7
‘	Cheese factory milk, cattle	1923	98	181	11.3	4,598	2,838	1,518	985	131	402	172	616[3]	4.7
Chemung	Milk, cattle, eggs, potatoes, hay	1911	195	139	6.3	4,722	3,344	958	470	67	421	185	323[3]	2.1
“	“ “ “ “ “	1912	83	155	8.4	5,797	3,843	1,569	796	66	707	417	356	6.1
“	“ “ “ “ “	1913	186	140	7.7	6,015	4,177	1,416	689	119	608	307	339	4.5
“	“ “ “ “ “	1914	97	150	9.3	6,894	4,700	1,719	761	132	826	481	388	6.4
“	“ “ “ “ “	1915	61	160	10.0	7,121	4,828	1,672	713	158	801	445	336	6.5
“	“ “ “ “ “	1917	60	112	8.0	7,363	5,145	2,519	1,148	211	1,160	792	490	9.1
Chemung	Milk, tobacco, cattle, wheat, eggs	1911	42	117	8.6	8,482	6,664	1,876	810	89	977	552	447[3]	6.2
“	“ “ “ “ “	1912	66	111	8.1	9,840	7,825	2,383	1,052	52	1,279	787	316	9.8
“	“ “ “ “ “	1913	85	122	9.4	10,031	7,732	2,130	1,034	89	1,007	505	341	6.6
“	“ “ “ “ “	1914	37	130	13.4	13,404	9,658	3,749	1,739	76	1,934	1,264	386	11.5
“	“ “ “ “ “	1915	31	153	14.4	13,412	9,806	3,218	1,490	89	1,639	969	364	9.5
“	“ “ “ “ “	1917	46	124	12.4	13,104	9,864	4,706	2,148	160	2,399	1,743	557	14.1
Clinton	Milk, potatoes, apples, hay, cattle	1914	95	148	10.6	9,401	6,925	1,562	741	85	736	266	403	3.5
Cortland	Grade A milk, cabbage, potatoes, cattle	1921	51	168	25.0	19,204	13,681	7,018	4,565	428	2,025	1,065	834	6.2
Dutchess	Milk, cattle, eggs, hay, apples	1914	66	192	16.1	14,375	10,629	2,746	1,430	53	1,263	544	385	6.1
“	“ “ “ “ “	1915	46	156	12.6	12,404	9,443	2,363	1,236	23	1,104	484	345	6.1
Franklin	Milk, cattle, potatoes, hay	1914	21	139	16.8	11,590	8,742	2,263	1,348	55	860	280	440[2]	3.6
Herkimer	Milk, butter, cattle	1914	68	139	15.6	7,722	5,262	1,495	656	166	673	287	472	2.6
“	“ “ “ “	1915	37	135	13.0	7,630	5,191	1,460	554	120	786	404	420	4.8
Jefferson	Milk, hay, cattle	1910	670	143	15.0	9,006	6,839	1,851	695	96	1,060	610	344	7.9
“	Hay, milk, cattle, oats	1914	97	172	9.4	13,212	10,258	1,964	543	67	1,354	693	504	6.4
“	Cheese factory milk, cattle, eggs	1921	67	203	18.4	13,909	10,691	2,002	1,258	423	321	—374	520[2]	1.4
Livingston	Milk, beans, cattle, wheat, potatoes, hay	1908	578	149	9.4	12,037	9,516	2,457	1,122	67	1,268	666	438[3]	6.9
“	“ “ “ “ “ “	1918	697	147	8.4	18,859	14,818	4,258	2,868	232	1,158	215	582	3.1
Madison	Grade B milk, cattle, alfalfa, peas	1921	125	141	19.0	15,371	11,030	4,278	2,892	389	997	228	720	1.8
“	“ “ “ “ “ “	1922	108	145	19.1	15,588	11,343	3,697	2,537	377	783	4	701	0.5
“	Grade B milk, peas, cabbage, cattle	1921	121	167	22.7	16,586	11,059	5,082	3,662	270	1,150	321	783	2.2
“	“ “ “ “ “ “	1922	88	151	22.0	16,080	10,818	4,550	3,459	255	836	32	743	0.6

Madison	Grade B milk, peas, cabbage, cattle	1923	95	163	22.5	15,546	10,476	5,516	4,120	236	1,160	383	814	2.2
Monroe	Potatoes, wheat, milk, butter, cabbage	1914	106	108	5.9	15,359	12,768	2,261	1,137	156	968	200	360	4.0
“	“ “ “ “ “	1915	67	104	6.5	15,734	12,889	3,000	1,077	188	1,735	949	344	8.8
Montgomery	Milk, cattle, hay	1914	77	134	16.8	11,104	7,926	2,234	859	205	1,170	615	409[2]	6.9
“	“ “ “	1915	72	135	16.5	10,890	7,629	2,331	920	219	1,195	647	440[2]	6.9
Nassau	Potatoes, sweet corn, cabbage, carrots	1914	84	76	2.2	3,935[4]	58,537	6,949	5,548	361	1,040	843	445	1.0
“	“ “ “ “ “	1915	27	70	2.0	3,417[4]	54,381	6,878	5,112	502	1,264	1,093	458	1.4
Niagara	Apples, peaches, tomatoes, pears	1913	89	73	3.1	18,279	15,763	4,095	1,860	106	2,129	1,215	407	9.4
“	“ “ “ “	1914	98	72	2.9	18,597	16,293	1,905	1,371	184	350	—580	427	—0.4
“	“ “ “ “	1915	81	74	2.7	18,331	15,883	2,376	1,499	137	739	—177	447	1.6
“	“ “ “ “	1916	87	66	2.5	15,322	13,481	2,460	1,290	119	1,051	285	439	4.0
“	“ “ “ “	1917	113	69	2.7	15,058	13,078	3,295	1,875	133	1,287	534	448	5.6
“	“ “ “ “	1918	159	70	2.6	14,962	12,824	3,698	2,008	118	1,572	823	508	7.1
“	“ “ “ “	1919	156	64	2.7	14,994	12,745	3,355	1,904	133	1,318	569	629	4.6
“	“ “ “ “	1920	178	72	3.1	17,474	15,026	4,916	3,550	226	1,141	267	750	2.2
“	“ “ “ “	1921	171	68	2.8	16,722	14,656	3,257	2,114	168	975	138	651	1.9
“	“ “ “ “	1922	178	67	2.7	17,664	15,716	4,158	2,851	180	1,127	244	656	2.7
“	“ “ “ “	1923	194	64	2.8	16,441	14,496	2,828	2,127	152	549	—273	680	—0.8
“	“ “ “ “	1924	202	65	2.6	17,104	15,194	3,492	2,070	166	1,256	401	718	3.1
Oneida	Milk, potatoes, apples, hops, hay	1914	62	105	12.2	11,072	8,274	2,625	1,275	202	1,148	594	478	6.1
“	“ “ “ “ “	1915	58	101	11.8	10,699	7,878	2,564	1,145	200	1,219	684	440	7.3
Orange	Milk, eggs, cattle	1915	71	122	18.2	10,954	7,374	2,412	1,403	141	868	320	373	4.5
Oswego	“ “ “	1915	102	83	11.6	7,482	5,408	1,553	681	87	785	412	382	5.4
“	“ “ “	1916	35	78	10.7	7,309	4,892	1,952	953	76	923	558	480	6.1
Otsego	Milk, cattle, eggs	1914	106	133	15.8	8,399	4,937	2,517	1,166	71	1,280	860	433	10.1
“	“ “ “	1915	81	143	16.6	8,987	5,194	2,264	1,265	83	916	467	443	5.3
Saratoga	Milk, butter, cattle, apples	1915	14	138	11.2	10,158	7,696	2,028	946	116	966	458	494	4.6
Schoharie	Milk, butter, eggs, cattle	1915	59	149	14.7	5,930	3,452	1,950	1,032	151	767	471	464[3]	5.1
“	Milk, cattle, hay, hops, eggs	1915	75	115	13.1	9,482	6,748	2,172	1,077	133	962	488	498[3]	4.9
“	“ “ “ “ “	1916	91	141	11.5	9,241	6,140	2,906	1,450	155	1,301	839	427	9.5
St. Lawrence	Milk, cattle	1913	142	169	22.9	13,175	9,464	2,443	910	170	1,363	704	479[2]	6.7
Tompkins	Milk, hay	1907	749	107	7.1	5,705	4,182	1,189	405	53	731	446	326[3]	7.1
“	Hay, beans, milk, wheat, potatoes, eggs	1914	58	110	5.4	10,594	8,338	2,193	811	48	1,334	804	459[2]	8.3
“	“ “ “ “ “ “	1915	70	109	5.7	10,420	8,120	1,960	820	48	1,091	570	438[2]	6.3
“	Milk, cattle, eggs, hay	1917	250	125	7.5	8,561	6,156	2,124	1,117	151	856	428	421	5.1
Ulster	Apples, milk, eggs, cattle, hay	1914	77	111	9.2	10,950	8,226	2,172	1,407	121	644	95	388	2.3
“	“ “ “ “ “	1915	47	115	10.2	11,912	8,832	3,142	1,463	101	1,578	982	381	10.1

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[1] The Rate paid year men, unless otherwise indicated, is the cash paid help who boarded themselves. Besides “cash” the year man was usually furnished a house, fuel, and other privileges such as milk, potatoes, pork, etc.

[2] The Rate paid year help, including cash and value of board.

[3] Farmer's estimate of the value of his own labor for one year.

[4] In calculating labor income, the average cash rent of $768 was deducted instead of 5 per cent of the valuation of the farm. This land is high priced because of its value for building sites and estates.

Income from capital and operator's labor is the difference between receipts and expenses including unpaid labor as an expense.

Labor Income is the income from capital and operator's labor less 5 percent interest on the capital. In addition to labor income, a farmer has a house to live in and farm products to use.

Rate paid year men is the cash paid the year men who boarded themselves. In addition to cash, such help was usually furnished a house and farm products.

Return to capital is the income from capital and operator's labor, less the value of the farmer's time at hired man's wages. The percentage that this income is of the average capital is given in the table.

LABOR INCOMES AND FARM WAGES COMPARED

Prior to 1920, farmers in the areas surveyed, averaged 29 per cent more for their time than they paid their year men. Since 1920, farmers received only one-fourth as much as year help. Prior to 1920, the average labor income exceeded the wage rate in two-thirds of the areas, but, since 1920, the labor incomes averaged less than wages in all but one of the areas. The seriousness of the agricultural depression in New York State is evident when the farmers in the best agricultural communities have received for their labor, only one-fourth the wages paid their hired men. This condition has existed for 5 years. The decline in the prices of farm property is not included.

TABLE 1.—THE AMOUNT FARMERS RECEIVED FOR THEIR YEAR'S WORK COMPARED WITH THE WAGES PAID THEIR YEAR MEN

PERCENTAGE THAT LABOR INCOME WAS OF HIRED MEN'S WAGES

		Other areas				
		Less than 15 Cows		15 Cows and over		
	Fruit farms	Crop sales		Crop sales		
Year	Niagara Co.	Important	Unimportant	Important	Unimportant	All farms
1907		37				37
1908		52				52
1910				77		77
1911		23	—43			—4
1912		149	17			79
1913	199	48	13		47	66
1914	—236	32	0	46	6	10
1915	—140	82	3	47	0	31
1916	— 35	40	26			23
1917	19	22	62			82
1918	62	—63				— 5
1919	— 10					—10
1907-1919 Average	— 19	51	9	53	10	29
1920	— 64					—64
1921	— 79			—31	—114	—69
1922	— 63			—98		—87
1923	—140		—88	—53		—90
1924	— 44					—44
1920-1924 Average	— 78			—56		—76

The best paying regions in New York State are those so situated as to derive some income from the sale of crops. Prior to 1920, the labor incomes in these communities averaged more than one-half higher than wages. In communities where crop sales were unimportant the labor incomes averaged about one-tenth more than wages. Due to some very poor years, labor incomes in Niagara County averaged the lowest.

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FARM ECONOMICS

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BUSINESS CONDITIONS

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	113	111	....
1914	103	101	100	96	98	81	....
1915	100	101	103	119	74	101	101
1916	116	119	130	152	70	130	114
1917	170	180	181	140	92	124	129
1918	186	206	198	130	110	121	160
1919	206	215	210	160	102	94	185
1920	217	214	231	144	137	109	222
1921	144	119	150	118	125	48	203
1922	134	124	152	146	86	77	197
1923	142	137	157	155	95	112	214
1924	128	140	153	166	77	85	218
May, 1924	129	135	150	154	88	83	217
June	135	134	148	156	83	68	214
July	129	138	150	164	70	60	214
August	133	146	153	170	58	63	216
September	129	137	152	170	53	68	221
October	127	145	155	169	53	77	217
November	134	145	156	178	58	83	218
December	135	147	160	190	67	96	223
Jan., 1925	136	154	163	201	77	110	223
February	136	153	164	203	80	111	220
March	136	157	164	200	82	109	224
April	141	152	159	201	83	102	218
May	150	151	158	209	82	91	221
June	157	153	161	214	81	87	220
July	150	156	163	222	75	88	220
August	156	160	164	228	70	88	222
September	148	152	161	236	69	89	223
October	....	151	160	243	71	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data furnished by J. L. Snider, Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

The most striking features of the business situation are, continued low interest rates, the spectacular activity in the stock market, and unusual transactions in city real estate, particularly in Florida.

Interest rates on 4-6 months' commercial paper for October were 71 percent of the five-year prewar average. Cheap money must find some expression in the business world. Apparently the demand for the advance purchase of commodities has not been in sufficient volume to cause inflation of prices. The cheap money has found an outlet in the security market and in city real estate. In both cases the rapid rise in prices has shown the usual result of stimulating further rise. Nothing makes prices rise so rapidly as rising prices. Industrial stocks in October were selling at 143 percent above prewar. Real estate in the large cities is more than double prewar, and Florida building lots are selling at fabulous prices, because the buyer hopes to sell at still higher prices.

Relationship at critical times of the index numbers given on page 345 are shown in Table 1. The most striking point in the table, is the fact that the different index numbers do not move together. The financial situation always has an influence, but the results come in sequence rather than simultaneously. In 1917, interest rates and wages were out of adjustment with prices. In 1919, interest rates were abnormally low, but wages and prices were approximately in adjustment, altho on an inflated basis. The drastic deflation of 1920 went to the other extreme. Instead of being cheap, money suddenly became very dear. Discount rates jumped from 4.75 to 7 percent. Prices dropped from 252 to 141. This maladjustment was equally unstable. In 1922, interest rates and wages were out of adjustment with prices. At the present time, wages, the stock market, and city real estate are strikingly out of adjustment with prices of commodities and farm real estate. No such maladjustment can continue permanently.

TABLE 1.—INDEX NUMBERS, PREWAR = 100

Date	Interest rates	Price of Industrial stocks	Prices paid to farmers	Prices of all commodities	Wages
May, 1917	103	150	189	187	127
1919-1920	low 86	high 183	high 241	high 252	high 229
1921-1922	high 162	low 107	low 108	low 141	low 190
Latest, 1925	71	243	151	160	223

Economic conditions in 1921 were so violently out of adjustment that the status quo could not continue. Deflation was so drastic that there was a maladjustment between gold and prices of other things. Money inevitably became very cheap. It had to find some form of expression. It is as impossible to go on with the cheap money and keep other things in balance as it is to continue with dear money and keep other things in balance. The disastrous experiences of 1920 left no inclination to purchase commodities in advance of need and no inclination to buy farm property. Cheap money expressed itself in raising the prices of stocks and city real estate to the highest levels ever known.

At the present time, money continues to be cheap. It does not seem probable that it can be used indefinitely in inflating prices of stocks, city real estate, Florida lands, and other play grounds. Commodity prices, particularly prices paid to farmers and prices of farm property are violently out of adjustment with wages, prices of city real estate, and shares of industrial concerns. Such unprecedented conditions can no more continue than could any of the previous unusual relationships. The present economic situation is almost as unbalanced as was the situation in 1920.

What the next relationship will be, it is impossible to foretell. However, it is probable that real estate and industrial stocks may decline, and it is possible that inflation of commodity prices may occur.

Whatever the reaction in the next few months or few years may be, it seems probable that some of the present gold supply will ultimately go back to the place from which it came. If this occurs, an ultimate decline in prices is to be expected. The safe procedure for farmers is to use every opportunity to pay debts, especially if this can be done with farm products that are temporarily high in price. If prices are low, reasonable expansion may be safe, but, under the present circumstances, expansion on borrowed money is usually dangerous if prices are high. It is a good year to pay debts with potatoes rather than expand the potato acreage. The farmer who is out of debt may safely continue to farm in the usual way.

Care in expenditures is also the safe policy for those city persons who are purchasing everything on the installment plan, in the expectation that cheap food, high wages, and full employment will continue forever.

CROP CONDITIONS

The United States Department of Agriculture estimates of probable crop yields this year are given in Table 2. The October weather may cause changes in the crop yield, which will be indicated in November, but violent changes are not to be expected, except for potatoes. The yield of potatoes may be reduced by unfavorable weather.

TABLE 2—CROP CONDITIONS IN THE UNITED STATES

Crop	5 years 1920-1924	1924 December estimate	1925 October forecast	percent 5-yr. average
Hay, tons	107,000,000	112,000,000	98,000,000	91.6
Potatoes, bu.	418,000,000	455,000,000	344,000,000	82.3
Apples, bu.	182,000,000	179,000,000	164,000,000	90.1
Feed grains, lb. (corn, oats, barley)	216,000,000,000	195,000,000,000	221,000,000,000	102.3

The fall weather has been favorable for corn and the total yield of corn, oats and barley is now estimated to be 2 percent above the five-year average and 13 percent above the poor yields of last year. The good crops of feed grains, together with the short supply of hogs have resulted in a striking decline in the price of corn. The United States farm price of corn declined from $1.06 in August to 83 cents in October. The Iowa farm price for October is given as 70 cents. In some parts of Iowa, farmers have been selling corn as low as 56 cents, or $20 per ton for shelled corn. The corn crop is of good quality. A product that is so intrinsically valuable and that is selling so cheap, is good property. It will be in the interests of the corn producers and public welfare if considerable of the present corn crop can be held over for next year.

(Continued on page 353)

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton lb.	Hay ton	Onions bu.	Potatoes bu.	Sweet Potatoes bu.
1910-14	c.	c.	c.	c.	c.	c.	c.	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.3
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	26.8	13.28	169	87.0	137.0
October	108.9	48.9	129.7	81.4	111.6	210.8	3.72	23.1	12.64	156	68.8	148.5
November	99.6	47.4	133.6	79.7	106.8	222.7	3.81	22.6	12.91	153	64.0	132.2
December	105.6	50.6	141.1	76.2	104.6	235.8	3.91	22.0	12.69	154	64.1	140.1
1925												
January	112.0	54.0	162.1	82.4	107.0	271.8	4.08	22.7	12.70	164	70.2	145.5
February	114.5	53.4	169.8	84.8	112.2	275.3	4.27	23.0	12.83	194	72.3	160.2
March	112.1	49.7	164.0	81.5	112.4	267.8	3.91	24.5	12.39	189	71.4	180.8
April	103.8	44.7	140.5	76.1	104.1	244.7	3.84	23.7	12.84	202	70.5	196.2
May	107.5	45.4	149.1	75.9	113.3	251.8	3.91	23.0	12.17	251	70.6	189.1
June	111.0	48.3	152.7	76.4	112.3	246.8	4.28	23.0	11.82	280	84.4	170.2
July	104.4	45.3	140.3	73.5	115.7	227.6	3.98	22.3	12.48	290	125.5	188.7
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton	Hay	Onions	Pota- s	Sweet a,
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
October	155	125	148	135	154	126	165	191	109	162	99	175
November	157	123	152	133	149	137	170	187	111	159	107	173
December	181	130	164	126	147	152	171	180	103	152	106	194
1925												
January	192	140	185	135	152	168	181	185	108	159	112	185
February	192	135	190	133	158	161	192	189	107	172	110	192
March	185	124	184	130	159	154	179	198	103	159	107	207
April	167	110	158	118	144	141	175	191	108	159	104	211
May	166	110	166	117	155	143	172	183	100	193	101	193
June	164	116	168	118	148	141	185	181	96	222	122	177
July	151	109	161	120	146	136	173	176	104	238	169	206
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	109
October	118	95	156	96	120	137	163	178	107	189	182	199

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.28
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
October	116.0	77	19.4	38.2	38.8	54.30	5.52	8.22	6.32	10.35	37.3	9.45
November	120.0	76	18.5	45.8	39.3	55.05	5.43	7.89	6.39	10.55	40.1	8.62
December	128.0	73	17.9	49.9	41.8	54.00	5.35	7.84	6.84	10.96	42.2	8.39
1925												
January	145	73	18.5	48.6	41.3	54.81	5.63	8.50	7.86	12.69	42.8	9.31
February	151	78	19.1	35.7	38.7	54.79	5.69	8.87	8.41	13.13	43.2	9.62
March	155	81	20.0	23.9	39.5	56.19	6.18	9.21	8.20	13.48	43.0	11.83
April	158	83	21.1	24.2	39.7	56.85	6.55	8.80	8.42	12.22	40.8	11.64
May	179	82	22.0	24.8	39.5	57.88	6.48	8.35	7.53	11.99	36.9	10.78
June	201	81	21.6	26.1	38.2	57.79	6.46	8.18	7.04	11.62	35.7	10.82
July	159	81	21.4	27.9	39.2	57.95	6.55	8.65	7.17	11.71	39.4	12.02
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
October	168	56	164	171	150	109	104	117	147	188	218	128
November	166	55	162	180	147	110	104	114	150	193	233	124
December	166	54	166	166	148	108	102	113	157	193	244	125
1925												
January	150	53	173	164	145	116	112	125	171	219	231	132
February	147	55	175	136	142	115	111	131	185	221	234	135
March	143	56	179	111	153	115	117	133	171	217	230	160
April	138	57	183	142	156	115	119	130	166	189	227	154
May	146	57	186	149	160	117	118	127	152	186	207	149
June	164	56	183	156	163	116	119	121	148	184	204	151
July	155	57	180	167	171	118	123	128	157	192	225	166
August	166	57	173	174	169	118	123	128	166	208	214	163
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Beans bu.	Hay ton	Onions bu.	Potatoes bu.	Apples bu.	Cabbage cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	73	2.28	15.42	105	69	103	1.03
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.35
October	133	61	137	86	100	3.90	14.30	121	68	100	1.59
November	128	59	148	89	104	3.80	13.60	113	53	109	1.47
December	134	60	153	91	101	4.00	13.80	124	56	119	1.93
1925											
January	135	63	174	95	102	4.10	13.00	136	59	120	1.94
February	136	66	188	101	110	4.40	13.40	152	61	125	2.00
March	143	61	185	96	121	4.40	12.60	156	55	130	1.78
April	128	60	156	92	104	3.90	12.40	172	49	133	1.60
May	129	59	168	97	109	4.20	12.00	200	48	150	3.60
June	134	60	178	97	106	3.75	12.00	259	50	162	2.70
July	126	59	163	91	122	4.00	12.30	290	86	126	4.30
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Potatoes	Apples	Cabbage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
October	168	130	141	115	135	160	94	155	99	164	289
November	166	128	153	119	144	158	91	147	95	168	306
December	179	128	156	121	140	165	90	151	88	161	297
1925											
January	188	140	176	127	144	175	85	168	92	148	240
February	192	140	188	135	153	188	88	171	88	144	230
March	201	130	185	125	170	190	81	144	81	144	163
April	180	122	156	119	142	171	80	164	71	129	155
May	177	118	168	123	145	179	76	180	67	133	308
June	179	118	175	121	138	160	74	204	71	165	211
July	166	116	161	117	145	165	77	221	125	143	172
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
October	116	24	50	45	2.11	70.00	11.00	5.70	5.70	11.20	41	9.60
November	112	22	62	44	2.51	68.00	10.60	5.20	5.30	11.10	41	9.50
December	114	22.8	63	48	2.66	66.00	11.40	5.30	5.80	11.90	45	10.00
1925												
January	110	24.3	57	46	2.67	70.00	12.00	5.40	6.60	14.00	50	10.20
February	115	24.0	48	45	2.55	68.00	11.50	5.70	7.00	13.60	51	10.50
March	114	25.1	31	45	2.51	69.10	11.50	5.50	6.50	14.00	48	11.30
April	118	25.4	28	46	2.39	73.00	10.90	6.00	6.20	13.40	44	12.60
May	124	26.6	28	46	2.14	77.30	9.70	6.30	5.90	12.40	40	11.90
June	133	26.1	31	45	2.05	77.00	10.10	5.90	6.20	12.60	38	12.10
July	128	26.9	35	46	2.10	80.70	10.60	6.40	6.10	12.50	43	12.30
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	......	80.40	12.30	5.90	6.20	12.40	42	12.00

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	93
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	73	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
October	66	155	167	145	118	125	124	100	140	187	195	121
November	64	152	177	138	134	121	120	95	135	184	195	128
December	65	165	154	141	139	117	130	97	134	193	214	136
1925												
January	64	179	150	135	140	130	142	103	158	218	227	137
February	66	171	150	136	140	125	137	108	166	213	232	140
March	65	177	111	145	149	124	138	106	152	217	229	146
April	65	172	133	153	163	129	141	112	136	196	210	161
May	70	179	147	159	180	139	132	112	137	190	200	157
June	74	172	155	161	192	135	128	107	146	190	190	164
July	73	177	159	170	167	143	130	117	147	190	205	164
August	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	......	144	139	103	153	207	200	152

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[1] Net pool price of 3.7% milk at Utica, N. Y.

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

CORRESPONDING MONTH 1910-14 = 100

Year	New York	Pennsylvania*	Ohio*	Iowa	North Dakota	Utah*	Oregon	Kentucky*	Georgia	Alabama*	Texas	United States
1910	101	99	103	98	108	108	107	103	110	107	108	104
1911	97	94	89	87	101	91	97	94	103	99	98	94
1912	101	101	101	102	102	96	96	98	86	90	92	99
1913	97	100	103	103	89	101	98	102	98	99	100	99
1914	103	103	105	109	98	103	102	108	91	96	95	101
1915	100	102	104	107	123	109	106	99	80	86	93	101
1916	116	115	120	120	126	123	114	112	117	114	120	119
1917	170	170	181	181	199	168	168	159	184	171	177	180
1918	186	193	201	202	221	188	191	207	242	221	220	206
1919	206	206	216	211	237	193	198	211	238	222	222	215
1920	217	217	210	187	240	198	195	216	257	234	217	214
1921	144	140	130	102	125	107	119	167	105	108	105	119
1922	134	127	127	106	111	106	119	157	147	136	132	124
1923	142	138	133	113	105	127	119	158	202	178	167	137
1924	128	136	134	121	122	127	121	154	202	176	166	140
1922—												
January	142	129	115	95	100	95	108	162	131	121	116	117
February	139	128	123	99	101	110	109	161	125	115	113	116
March	138	130	131	108	125	121	120	159	130	121	121	124
April	132	125	131	104	131	111	113	154	130	122	123	123
May	138	131	135	109	132	117	122	156	126	124	123	126
June	138	134	128	110	132	127	127	153	144	137	132	129
July	141	128	127	110	119	117	128	154	152	140	139	129
August	125	123	119	110	114	113	121	156	159	144	136	125
September	124	117	121	98	75	112	116	154	157	142	140	119
October	122	123	127	107	98	113	121	154	156	143	134	122
November	131	129	130	110	101	115	121	159	177	160	150	129
December	136	134	134	116	107	121	123	160	181	164	157	134
1923—												
January	127	132	133	118	102	122	125	164	190	165	161	137
February	132	132	134	112	108	131	120	163	200	175	164	136
March	133	132	133	111	108	132	123	158	215	180	173	138
April	143	132	134	111	113	124	119	157	211	182	175	139
May	148	140	139	113	117	129	123	155	191	175	165	138
June	163	144	140	112	109	127	127	152	190	171	158	134
July	157	141	131	110	102	128	127	155	191	170	163	134
August	149	143	132	108	97	124	116	156	181	165	162	129
September	151	144	129	114	99	128	115	157	190	174	153	133
October	147	142	129	113	105	128	114	157	210	185	166	138
November	143	141	130	114	104	128	116	159	221	197	177	141
December	135	138	129	114	103	127	109	159	233	201	186	143
1924—												
January	123	131	128	113	111	122	111	161	244	201	191	143
February	123	133	130	113	113	123	110	160	238	203	185	142
March	125	133	128	111	117	128	108	153	211	180	171	136
April	130	132	130	110	113	124	106	157	220	182	167	135
May	129	130	130	112	111	124	109	159	212	181	164	135
June	135	136	127	111	110	124	113	149	201	177	165	134
July	129	136	125	119	125	127	119	143	199	172	166	138
August	133	142	133	130	129	124	133	150	203	179	175	146
September	129	137	137	128	118	128	130	148	170	153	148	137
October	127	137	145	136	136	128	140	151	179	162	153	145
November	134	144	144	134	139	137	142	155	174	159	155	145
December	135	146	148	138	147	140	140	156	171	158	154	147
1925—												
January	136	146	154	147	167	142	155	160	175	159	158	154
February	136	146	154	143	166	146	152	161	176	162	160	153
March	136	148	157	149	163	154	152	159	186	169	170	157
April	141	149	156	143	138	141	144	160	177	163	159	152
May	150	152	159	142	148	141	146	159	172	161	159	151
June	157	158	162	144	150	141	144	152	167	158	142	153
July	150	163	166	149	146	142	148	155	174	156	162	156
August	156	162	160	149	153	135	151	160	177	160	166	160
September	148	......	155	137	138	144	140	159	170	157	151	152
October	......	......	......	134	134	137	142	160	167	155	162	151

*Index numbers for Pennsylvania were prepared by F. P. Weaver, Department of Agricultural Economics, State College, Pa.; those for Ohio by J. I. Falconer, Department of Rural Economics, Ohio State University, Columbus, Ohio; those for Utah by J. A. Ellsworth; those for Kentucky by C. U. Jett, City National Bank, Paducah, Ky.; and those for Alabama by J. D. Pope, Polytechnic Institute, Auburn, Ala.

The good supply of grain feeds makes the outlook for the eastern dairymen favorable, as feed will probably continue to be lower than last year, whereas milk is higher.

PRICES OF FARM PRODUCTS

A very striking decline in prices of many farm products occurred in September. Prices paid to farmers for all farm products in August were 60 percent above prewar, but by October were only 51 percent above prewar. Farm prices had begun to approach the general level of all commodities at wholesale prices, but are now about 10 points below the general price level.

Last September, prices of farm products in New York were 29 percent above prewar and in September this year they were 48 per cent above. The pool price of milk in September was 55 percent above prewar. A year ago it was 32 percent above.

Numerous statements have appeared indicating that the agricultural depression is now over. Such statements are usually based on prices for individual products in cities. Some farm products, such as potatoes and wool, are higher than the general price level, as shown on pages 348 and 349. Another error which continues to be made, is to assume that prices in cities compared with prewar prices in cities represent conditions on farms. City prices include freight rates and city labor charges and therefore do not represent farm conditions. The price with which the farmer is concerned is the one he gets, not the price which someone in the city receives.

Prices paid to farmers for food products in September, dropped 9 points below the August prices. Prices at retail dropped one point. In September the index number of the retail prices of food was 164. Prices paid to farmers were 151. Had the prices paid to farmers not dropped, retail prices would doubtless have risen.

Recent spectacular changes have occurred in the prices of corn, oats, barley and potatoes. In October the farm price of corn was only 18 percent above the five-year prewar average. Oats are 5 per cent and barley 4 percent below prewar prices.

The reduced acreage and unfavorable weather, has caused a sharp advance in the price of potatoes. Owing to severe losses for several years, the acreage is 11 percent below the five-year average, and owing to unfavorable weather, the yield per acre is 8 percent below. This makes the total production 18 percent below the five-year average. Unfavorable weather in October may cause a further decrease in yield.

The acres of potatoes this year is the smallest in 18 years. The prices that farmers have received for potatoes in the past four years, have been slightly higher than prices of other food products, but potatoes require a large amount of labor and in some regions require large cash expenditures for spray materials and fertilizers. The losses from potatoes have therefore been greater than the losses from other products. The reduced acreage of potatoes is one of the readily measurable results of the agricultural depression and the movement away from farms. Other important results will become equally evident as the years go by.

PRICES PAID TO FARMERS IN DIFFERENT STATES

Index numbers of prices paid to producers of farm products in the different states are given on page 352. The types of farming are so variable in different regions that an index number for the United States may be very different from the index for any one state. The same differences hold within a state and even between adjoining farms, because one farmer may happen to be producing products that are higher in price than those produced by his neighbor. Index numbers for representative states enable one to study the variations between different regions of the country. For example, in 1923 the index number of prices in North Dakota was 105, but for Texas it was 167. In 1924, the index for Iowa was 121, but for Kentucky it was 154. With the exception of 1921, prices in the cotton states were generally higher than the United States average. The favorable price of tobacco is reflected in the index numbers for Kentucky, which at no time have been as low as the United States average. Kentucky and North Carolina thus far have been much less affected by the agricultural depression than most other states.

Of the eleven states listed, Iowa has the lowest four-year average. For the four years 1921-24, prices paid to farmers in Iowa averaged only 10 percent above pre-war prices. The prices are probably typical of the corn-belt. This is the greatest food producing area in the world, but it produces the staple foods. Regions that produce tobacco, clothing materials, and the choicer vegetables have fared much better. The index for the nation fails to represent the seriousness of the situation in the corn-belt. In the last half of 1924, prices in Iowa improved materially, and were beginning to approach the average for the United States, but a sudden decline occurred and prices in October were only 34 percent above prewar. This represents a striking improvement over the four-year average, but is so low as to make conditions very unsatisfactory. The discontent in Iowa is fully explained by prices.

A year ago prices in New York State were the lowest of any of the 11 states listed, but a material improvement has occurred and prices in New York are now nearly up to the United States average.

Prices this fall in the different states show less discrepancy than during any previous time in the past five years. Conditions in the different states seem to be approaching normal relationships.

THE AGRICULTURAL SITUATION

Index numbers of average prices paid to producers of farm products, are as follows:

July, 1920 — 241
July, 1921 — 108
Oct., 1921 — 124
Oct., 1922 — 122
Oct., 1923 — 138
Oct., 1924 — 145
Oct., 1925 — 151

A steady recovery has occurred since 1921. The improvement during the last two years has been due, in part, to the unfavorable weather. Last year crop yields per acre were about 2 percent below the ten-year average. The October estimate indicates that the average yield of all crops per acre this year will be 4 percent below the ten-year average. Judging by the usual ratios of supply and price, about 3 points of the rise in price last year and about 6 points of the rise this year is due to the weather. It seems fair to assume that, had the season been normal, farmers would now be receiving about 45 percent above prewar prices. This amount rather than the 51 percent may be looked upon as ground gained.

Population is increasing at the rate of about 1.5 percent per year, or has increased about 8 percent since the agricultural depression began. The acreage of crops has not changed materially. The number of beef cattle and hogs are materially lower. The number of beef cattle is lower than at any previous time during the past 10 years. The number of hogs January 1st, 1925, was lower than at any previous time in the last 15 years.

These facts, together with the movement of farm workers to the cities account for most of the improvement in the prices of farm products. The gradual reduction of efforts on farms and steady increase in population will in time bring the price of farm products up to the level of other prices. A very unfavorable season might at any time bring about a temporary adjustment, just as a very favorable season might cause a temporary loss of the ground gained. When prices do come into adjustment, the effect of the reduced efforts in agriculture cannot at once be checked and there will probably be a period when farm prices will be higher than other commodities. This period may be quite as long as the period of depression and may be as much resented by city consumers as the agricultural depression is resented by farmers.

G. F. WARREN and F. A. PEARSON

STUDENTS OF AGRICULTURE

According to a report issued by the Chamber of Commerce of the United States, the number of students enrolled in agriculture in Land Grant Colleges has decreased 19 percent since 1919. In the northern states the number of students decreased 29 percent, but in the southern states they increased 17 percent. These results are to be expected from the index numbers of prices. With the exception of 1921 the index number of prices in southern states have been much higher than index numbers for northern states. The decreased enrollment has been most striking in colleges near industrial centers. Such colleges lost students who came from cities with the expectation of farming and also lost farm students as well.

The decreased enrollment is due in part to the disrepute into which farming has fallen because of low prices of farm products and high wages, and is due in part to the inability of farmers to assist their sons in paying the expenses of an education. It is a very serious mistake for a young man to make his decision for the future on temporary price relationships. In so far as he considers price relationships, he should consider the probable relationships for the period for which he expects to farm. So far as one can foresee the future, it seems probable that agricultural prices may continue to be unfavorable for a few years, but that the recovery will be sufficiently violent to make the outlook favorable for the next 25 years.

From the standpoint of public welfare, decreasing enrollment is very unfortunate. In 1914, in the Land Grant Colleges, 23 per cent of the students were enrolled in agriculture. Of the entire enrollment of all colleges and universities in the United States, in 1914, nearly 6 percent were enrolled in Agriculture. This number has now declined until it is less than 3 percent of the total registration.

It has been frequently shown that an investment in an agricultural education is highly profitable for the individual farmer. It is also desirable from the standpoint of agriculture and the nation. The United States has become one of the most urban nations of the world. Only a little more than one-fourth of the population is engaged in agriculture. If agriculture is to receive due consideration in national policies, the farming population should have its proportionate share of the college trained men. This means that instead of 3 percent, 25 percent of the students should be in agriculture. In the Land Grant Colleges this percentage was practically attained before the war.

G. F. Warren

A GOOD TIME TO BUY A FARM

Prices of farm land as reported by the United States Department of Agriculture last spring were 38 per cent above the five-year pre-war average for the United States. In New York, prices are reported to be the same as in 1916. City real estate is more than double pre-war prices and industrial stocks are 143 per cent above pre-war. Either industries and cities are much over-valued, or farm property is cheap. Probably both things are true.

It is probable that the average prices of land as reported by the United States Department of Agriculture may decline below present quotations. In a period of falling prices sales stop and quotations are above the real market. Many farms that must be sold can now be purchased far below pre-war prices.

It is not a good time to buy a poor farm. Many regions which are now sub-marginal were cleared and settled when labor was cheap. Much of this land is better adapted to forestry or pasture than to farming. Taxes on sub-marginal land are often more than the farm can be rented for.

When increased production is needed, it can be obtained at less cost by better farming on good land rather than by farming land that is not adapted to the use of machinery.

It is a good time to buy a good farm. Good buildings can be obtained at much less than pre-war costs. Tile drains already laid can be obtained at less than it costs to make and lay them when wages were $2 per day. Fertility in the soil sells at a very small percentage of the cost when purchased in a bag. In fact, everything that one desires in a farm or home can be obtained at less than pre-war prices. It is, therefore, folly to buy or accept as a gift a place that lacks many of the desired things.

G. F. Warren

APPLE PRODUCTION AND PRICES

The estimate of the United States Department of Agriculture on October 1 for the apple crop in the United States was 164 million bushels. This estimate is 14 percent below normal. The relationships between the United States apple crop and New York City prices suggest that the most probable season's price from August, 1925, to the following June for an average of sixteen varieties of apples would be $4.93 per barrel.

TABLE 1.—APPLE PRODUCTION AND PRICES

Year	Government estimated production for United States millions bu.	Percent of normal crop	New York season's average price per barrel for 16 varieties		
			Predicted	Actual	Difference cents
1920-21	224	117	$4.63	$4.63	0
1921-22	99	52	5.81	6.45	—64
1922-23	203	106	4.27	4.20	+7
1923-24	203	106	4.05	3.84	+21
1924-25	179	94	4.56	5.13	—57
1925-26	164	86	4.93	-------	-------

Whether the crop is large or small, there tends to be about the same increase from fall to spring in apple prices. If the increase in price is normal this year, the most probable price late next spring would be $5.97 per barrel. This is the average of the lowest and highest quotations, for 16 varieties of apples. The range in prices is usually very wide. The highest quotations are often twice the lowest quotations.

TABLE 2.—MONTHLY PRICES FOR 16 VARIETIES OF APPLES AT NEW YORK CITY, 1925-26

Price	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Predicted	$3.89	$3.94	$4.04	$4.44	$4.63	$4.88	$5.28	$5.47	$5.72	$5.97	$5.97
Actual	3.61	3.85	3.81								

G. P. SCOVILLE

DECREASE IN FARM CAPITAL

The United States Department of Agriculture has published figures showing the average value of the operator's capital on American farms*. In this calculation the mortgages and capital owned by non-farmers are deducted. The capital for the year ending June 30th, 1925, was nearly one-third less than the capital for the year ending June 30th, 1920.

TABLE 1.—Average Value of Operator's Net Capital

Year ending June 30th	Net Capital	Year ending June 30th	Net Capital
1920	$7,324	1923	$5,235
1921	6,378	1924	5,074
1922	5,297	1925	5,043

This is in striking contrast with the changes in values of shares of industrial stocks and values of city real estate. If a man had invested $7,324 in industrial stocks at prices for the year ending June, 1920, he could have sold in October, 1925, for $10,852. Apparently the average operator who kept his money in farming would have less than half this amount. It may be that farm values are now too low and stocks may be too high.

G. F. WARREN and F. A. PEARSON

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*Income from Agricultural Production in the United States. Crops and Marketts. Vol. 2, Sup. 7, p. 236. July, 1925.

RELATION OF THE PRICE OF MILK TO THE RATE OF PRODUCTION

More definite knowledge of the influence of prices upon the production of milk should be helpful to producers' organizations and dealers in establishing prices, and to dealers, particularly, in forecasting the quantity of milk likely to be delivered to their plants.

In measuring the effect of changes in prices upon the production of milk, allowance must be made for changes in the general level of prices. Changes in the yearly average prices paid to farmers for milk in the New York milk-shipping area corrected for changes in the general price level, are shown in Figure 1.

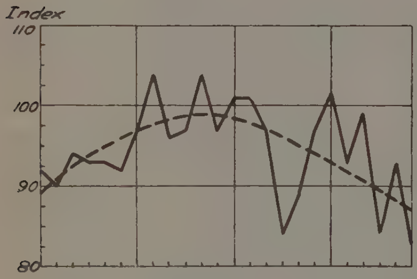

FIGURE 1

Changes in the Purchasing Power of Milk at Shipping Stations in the New York Territory.

The solid line indicates the changes in purchasing power from year to year. The broken line indicates the general trend of purchasing power thruout the period.

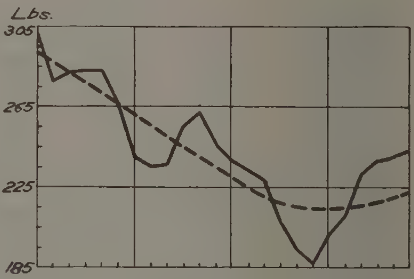

FIGURE 2

Changes in the Daily Average Production per Dairy at Shipping Stations in the New York Territory.

The solid line indicates the changes in production from year to year. The broken line indicates the general trend of production thruout the period.

The upward trend of purchasing power during the period 1901-1911 was followed by a downward trend from 1912 to 1924[1] In 1924 the purchasing power of milk was 18 percent below the average for the five years 1910-1914, and was lower than in any previous year during the twenty-four year period. The abrupt decline in 1916 and 1917 resulted from the sharp rise in the general price level without a corresponding rise in the price of milk. Fairly regular two-year cycles of purchasing power are evident.

In Figure 2 is shown the daily average production per dairy in this territory for each year since 1901.

The downward trend of production per dairy from 1901 to 1918 may be accounted for, in part, by the expansion of the milk shipping area into less intensive dairy regions. However, from 1910 to 1924 changes similar to those indicated in Figure 2 occurred in the production of dairies delivering milk to a group of identical country plants in this area. A remarkable increase has occurred in the rate of production per dairy since 1918.

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[1] The trend of the purchasing power of milk is similar to the trend of purchasing power of farm products in general.

Cycles in the production of milk per dairy are less regular and of longer duration than cycles o fthe purchasing power of milk, but certain relationships between the two curves may be noted. The low purchasing power of milk in 1905 and 1906 was followed by a low rate of production in 1907, 1908 and 1909. The extremely low purchasing power of milk in 1916 and 1917 was followed by a correspondingly low rate of production in 1918, 1919 and 1920. The relatively high purchasing power of milk in 1918 and 1919 was followed by an increased rate of production in 1921 and 1922. The low purchasing power of milk in 1924 is likely to be followed by a decreased rate of production in 1926 and 1927.

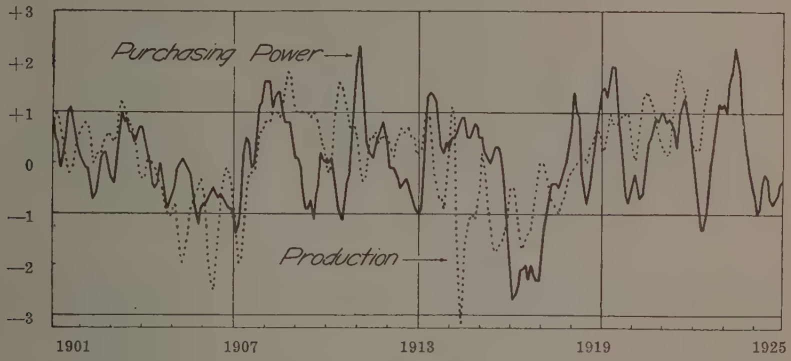

FIGURE 3

Deviations of the Purchasing Power and Production of Milk from Normal

Changes in the rate of milk production lag 2½ years after changes in the purchasing power of milk. Purchasing power for February, 1901, is plotted with production for August, 1903

In Figure 3 are shown the deviations of monthly purchasing power and production per dairy from their normal trends. It is evident that the purchasing power of milk bears considerable relationship to the rate of production about two and a half years later. However, there is little relationship between the purchasing power of milk and the current rate of production[2].

Fluctuations in the purchasing power and production of milk have been much greater since 1916[3].

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[2] The lag of changes in production behind changes in the purchasing power of milk is shown by the correlations given in the following table:

CORRELATIONS BETWEEN THE PURCHASING POWER OF MILK AND THE PRODUC- PER DAIRY IN THE NEW YORK MILK SHIPPING AREA

(3 months moving average cycles)

Lag of production behind purchasing power	Correlation co-efficient
no lag	+.10
12 months	+.23
24 months	+.37
36 months	+.37
48 months	+.12

[3] VARIABILITY OF THE PURCHASING POWER OF MILK AND OF PRODUCTION PER DAIRY

(Standard deviations of monthly cycles)

Years	Purchasing power	Production per dairy
1901-1916	5.4	7.2
1917-1924	11.3	11.1

Farmers respond to changes in the purchasing power of milk by increasing or decreasing the output of their dairies. They do this by changes in feeding practice and by keeping more or fewer cows. Since the greatest effect of the change in purchasing power does not appear until two or three years later, the assumption seems warranted that changes in the number of cows kept are more important than changes in feeding practice.

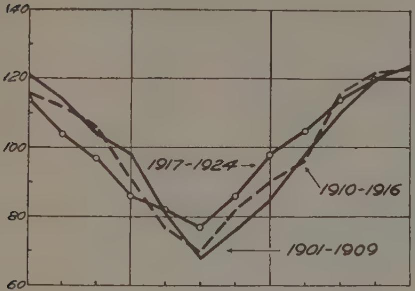

FIGURE 4

Changes in the Seasonal Variation of the Price of Milk.

During the period 1917-1924, milk prices from December to April were relatively low, and from June to October were relatively high, when compared with the prices prevailing during the period 1901-1909.

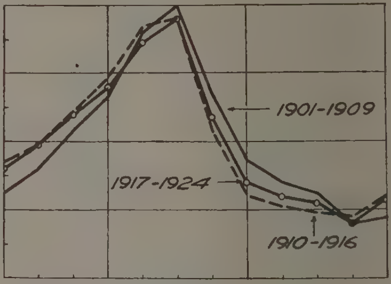

FIGURE 5

Changes in the Seasonal Distribution of Production per Dairy.

During the period from 1917-1924, the production of milk was relatively heavy from December to April, and relatively light from May to November, when compared with production during the period 1901-1909.

Changes in the purchasing power of milk are undoubtedly responsible for the more prolonged changes in the rate of production. Fortunately, the effects of changes in purchasing power usually may be foreseen many months in advance.

During this 24-year period, interesting changes in the seasonal variation of milk prices and in the seasonal distribution of milk production have occurred. Compared with prices for the corresponding months in the period 1901-1909, milk prices for June, July, August, September and October have been relatively higher in recent years, while the prices for December, January, February, March and April have been relatively low. (Figure 4)

This change, however, did not cause a decrease in the number of cows bred for fall freshening. During the period 1917-1924 relatively more milk was produced in the winter months than during the period 1901-1909, Figure 5.

The apparent failure of farmers to respond to the changed price situation is explained by the inevitable slowness with which the time of freshening can be changed and by the natural trend toward winter dairying as a result of the expansion of the market milk area into milk-manufacturing regions. Had winter milk prices remained as favorable, relatively, as they were during the period 1901-1909, there is little doubt but that winter dairying would have increased to a greater extent. In Philadelphia and other large markets, price systems have been adopted for the particular purpose of bringing about a more even flow of milk throughout the year.

LELAND SPENCER

FARM ECONOMICS

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No. 30 December 17, 1925

BUSINESS CONDITIONS

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	113	111	....
1914	103	101	100	96	98	81	....
1915	100	101	103	119	74	101	101
1916	116	119	130	152	70	130	114
1917	170	180	181	140	92	124	129
1918	186	206	198	130	110	121	160
1919	206	215	210	160	102	94	185
1920	217	214	231	144	137	109	222
1921	144	119	150	118	125	48	203
1922	134	124	152	146	86	77	197
1923	142	137	157	155	95	112	214
1924	128	140	153	166	77	85	218
May, 1924	129	135	150	154	88	83	217
June	135	134	148	156	83	68	214
July	129	138	150	164	70	60	214
August	133	146	153	170	58	63	216
September	129	137	152	170	53	68	221
October	127	145	155	169	53	77	217
November	134	145	156	178	58	83	218
December	135	147	160	190	67	96	223
Jan., 1925	136	154	163	201	77	110	223
February	136	153	164	203	80	111	220
March	136	157	164	200	82	109	224
April	141	152	159	201	83	102	218
May	150	151	158	209	82	91	221
June	157	153	161	214	81	87	220
July	150	156	163	222	75	88	220
August	156	160	164	228	70	88	222
September	148	152	163	236	69	89	223
October	147	151	161	243	71	92	225
November	165	153	162	248	75	....	....

[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data furnished by J. L. Snider, Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

City building continues at a rapid rate. Production in the basic industries is active. Railroad traffic is very heavy. Goods are not accumulating in the channels of trade. Wages of industrial workers continue high. Prices of industrial shares and the volume of transactions on the stock exchange are very high. Money continues cheap.

The year 1925 has been so prosperous for city industries that it will, no doubt, be looked upon as one of the "banner" years.

CROP CONDITIONS

Although crop yields in the United States are about normal, the yields vary widely in different parts of the country. The yield of crops in the Great Plains area, extending from North Dakota to Texas is below normal. The same is true for the South Atlantic States. They are slightly above normal in the central west and in New England. Crop yields are very good in Alabama, Mississippi and Louisiana. The same is true for Utah, Nevada, Idaho and Oregon. Conditions in New York are about normal. However, there is considerable variation within the State. Parts of western New York suffered very heavy losses on potatoes and beans, due to unfavorable weather conditions.

The yields of cotton, spring wheat, buckwheat, corn, oats, barley and beans are above normal, while the yields of winter wheat, rye, hay, fruit and potatoes are below normal.

FARM PRICES

The index numbers of 15 farm products rose, 6 fell, and 3 were stationary. During November, the index number of prices paid to producers of all farm products in the United States rose 2 points, and now stands at 153. The index number of prices paid to producers of food products rose 8 points and now stands at 160. The index number of food prices in November, 1925, was 7 points above the index for all farm products. This spread, in favor of food products over all farm products, has not been so large since September, 1921. The advance in the index number of the farm price of potatoes, 149 points; wheat, 13; eggs, 15; and sheep, 6; resulted in a sharp advance in food prices. The decline of 28 points in the index number of the price of cotton and 24 points in cottonseed meal, approximately compensated for the sharp advances in the prices of some food products and consequently there was only a slight change in the index of all farm products.

The index number of the prices of crops used for human consumption are relatively high: wheat, 169; beans, 164; onions, 182; potatoes, 331; sweet potatoes, 189; apples, 177; and cabbage, 171. On the other hand, the feed crops are relatively low: corn, 118; oats, 97; barley, 97; and hay, 112. The three animal products are relatively high: chickens, 168; eggs, 184; and butter, 173. Of the meat animals, beef cattle, milk cows and veal calves are cheap, hogs about normal, and sheep and lambs very high.

F. A. Pearson

THE NEW YORK MILK AND CREAM SUPPLY

About 85 per cent of the milk shipped to the New York Market originates in New York State and nearly all of the remaining 15 per cent is shipped from ten adjacent counties in New Jersey, Pennsylvania and Vermont.

The approximate quantity of milk available for shipment daily each month in 1922 and 1923 and the actual receipts[1] of milk at New York for the same period are shown graphically in Figure 1.

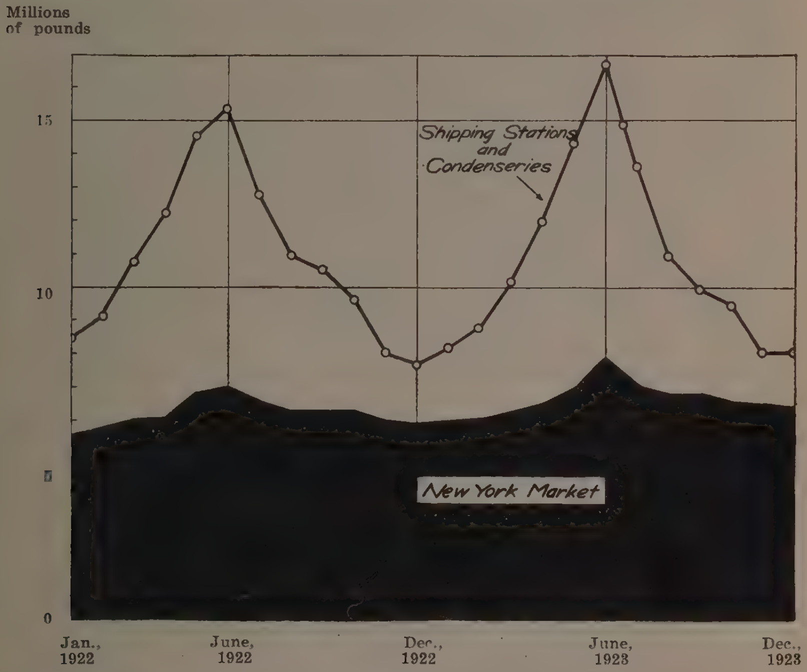

FIGURE 1.—Average daily receipts of milk at the New York Market and average daily supply of milk available for shipment from the country plants.

In January of each year the country plants were able to supply about 8 million pounds of milk a day, while the New York Market required about 6 million pounds a day or 75 per cent of the available supply. In June of each year, the supply was 15 to 16 million pounds a day, and the market required 7 to 8 million pounds, or less than 50 per cent of the supply.

From November to February the amount of milk available for shipment from the regular sources of supply was just sufficient to meet the needs of the market, including a reasonable margin of surplus to allow for variations in supply and consumption from day to day. From March to October the supply exceeded the needs of the market by a wide margin. Part of the surplus was separated for market cream and part was used for manufacturing.

The consumption of milk in the New York Market has nearly doubled since 1910. There is little doubt but that consumption will continue to increase at a fairly rapid rate. The price of milk during the next five or ten years will depend to a large extent upon the relative ease or difficulty of increasing the supply of milk for this

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[1] Published monthly in *The Milk Reporter*, Sussex, N. J.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buckwheat	Flaxseed	Beans	Cotton	Hay	Onions	Potatoes	Sweet Potatoes
	bu.	bu.	bu.	bu.	bu.	bu.	bu.	lb.	ton	bu.	bu.	bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	88.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.8	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	98.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.8	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	26.8	13.28	169	87.0	137.0
November	99.6	47.4	133.6	79.7	106.8	222.7	3.81	22.6	12.91	153	64.0	132.2
December	105.6	50.6	141.1	76.2	104.6	235.8	3.91	22.0	12.69	154	64.1	140.1
1925												
January	112.0	54.0	162.1	82.4	107.0	271.8	4.08	22.7	12.70	164	70.2	145.5
February	114.5	53.4	169.8	84.8	112.2	275.3	4.27	23.0	12.83	194	72.3	160.2
March	112.1	49.7	164.0	81.5	112.4	267.8	3.91	24.5	12.39	189	71.4	180.8
April	103.8	44.7	140.5	76.1	104.1	244.7	3.84	23.7	12.84	202	70.5	196.2
May	107.5	45.4	149.1	75.9	113.3	251.8	3.91	23.0	12.17	251	70.6	189.1
June	111.0	48.3	152.7	76.4	112.3	246.8	4.28	23.0	11.82	280	84.4	170.2
July	104.4	45.3	140.3	73.5	115.7	227.6	3.98	22.3	12.48	290	125.5	188.7
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buckwheat	Flaxseed	Beans	Cotton	Hay	Onions	Potatoes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
November	157	123	152	133	149	137	170	187	111	159	107	173
December	181	130	164	126	147	152	171	180	103	152	106	194
1925												
January	192	140	185	135	152	168	181	185	108	159	112	185
February	192	135	190	133	158	161	192	189	107	172	110	192
March	185	124	184	130	159	154	179	198	103	159	107	207
April	167	110	158	118	144	141	175	191	103	159	104	211
May	166	110	166	117	155	143	172	183	100	193	101	198
June	164	116	168	118	148	141	185	181	96	222	122	177
July	151	109	161	120	146	136	173	176	104	238	169	206
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	109
October	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples	Horses	Chickens	Eggs.	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
	bu.	head	lb.	doz.	lb.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
November	120.0	76	18.5	45.8	39.3	55.05	5.43	7.89	6.39	10.55	40.1	8.62
December	128.0	73	17.9	49.9	41.8	54.00	5.35	7.84	6.84	10.96	42.2	8.39
1925												
January	145	73	18.5	48.6	41.3	54.81	5.63	8.50	7.86	12.69	42.8	9.31
February	151	78	19.1	35.7	38.7	54.79	5.69	8.87	8.41	13.13	43.2	9.62
March	155	81	20.0	23.9	39.5	56.19	6.18	9.21	8.20	13.48	43.0	11.83
April	158	83	21.1	24.2	39.7	56.85	6.55	8.80	8.42	12.22	40.8	11.64
May	179	82	22.0	24.8	39.5	57.88	6.48	8.35	7.53	11.99	36.9	10.78
June	201	81	21.6	26.1	38.2	57.79	6.46	8.18	7.04	11.62	35.7	10.82
July	159	81	21.4	27.9	39.2	57.95	6.55	8.65	7.17	11.71	39.4	12.02
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
November	166	55	162	180	147	110	104	114	150	193	233	124
December	166	54	166	166	148	108	102	113	157	193	244	125
1925												
January	150	53	173	164	145	116	112	125	171	219	231	132
February	147	55	175	136	142	115	111	131	185	221	234	135
March	143	56	179	111	153	115	117	133	171	217	230	160
April	138	57	183	142	156	115	119	130	166	189	227	154
May	146	57	186	149	160	117	118	127	152	186	207	149
June	164	56	183	156	163	116	119	121	148	184	204	151
July	155	57	180	167	171	118	123	128	157	192	225	166
August	166	57	173	174	169	118	123	128	166	208	214	163
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	153

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Onions bu.	Pota-toes bu.	Apples bu.	Cabbage cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	73	2.28	15.42	105	69	103	1.08
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.85
November	128	59	148	89	104	3.80	13.60	113	53	109	1.47
December	134	60	153	91	101	4.00	13.80	124	56	119	1.93
1925											
January	135	63	174	95	102	4.10	13.00	136	59	120	1.94
February	136	66	188	101	110	4.40	13.40	152	61	125	2.00
March	143	61	185	96	121	4.40	12.60	156	55	130	1.78
April	128	60	156	92	104	3.90	12.40	172	49	133	1.60
May	129	59	168	97	109	4.20	12.00	200	48	150	3.60
June	134	60	178	97	106	3.75	12.00	259	50	162	2.70
July	126	59	163	91	122	4.00	12.30	290	86	126	4.30
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Pota-toes	Apples	Cab-bage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	148	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	168	247
1924	148	121	125	108	137	162	101	148	117	141	224
November	166	128	153	119	144	158	91	147	95	168	306
December	179	128	156	121	140	165	90	151	88	161	297
1925											
January	188	140	176	127	144	175	85	168	92	148	240
February	192	140	188	135	153	188	88	171	88	144	230
March	201	130	185	125	170	190	81	144	81	144	163
April	180	122	156	119	142	171	80	164	71	129	155
May	177	118	168	123	145	179	76	180	67	133	308
June	179	118	175	121	138	160	74	204	71	165	211
July	166	116	161	117	145	165	77	221	125	143	172
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
November	112	22	62	44	2.51	68.00	10.60	5.20	5.30	11.10	41	9.50
December	114	22.8	63	48	2.66	66.00	11.40	5.30	5.80	11.90	45	10.00
1925												
January	110	24.3	57	46	2.67	70.00	12.00	5.40	6.60	14.00	50	10.20
February	115	24.0	48	45	2.55	68.00	11.50	5.70	7.00	13.60	51	10.50
March	114	25.1	31	45	2.51	69.10	11.50	5.50	6.50	14.00	48	11.30
April	118	25.4	28	46	2.39	73.00	10.90	6.00	6.20	13.40	44	12.60
May	124	26.6	28	46	2.14	77.30	9.70	6.30	5.90	12.40	40	11.90
June	133	26.1	31	45	2.05	77.00	10.10	5.90	6.20	12.60	38	12.10
July	128	26.9	35	46	2.10	80.70	10.60	6.40	6.10	12.50	43	12.30
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	93
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	73	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
November	64	152	177	138	134	121	120	95	135	184	195	128
December	65	165	154	141	139	117	130	97	134	193	214	136
1925												
January	64	179	150	135	140	130	142	103	158	218	227	137
February	66	171	150	136	140	125	137	108	166	213	232	140
March	65	177	111	145	149	124	138	106	152	217	229	146
April	65	172	133	153	163	129	141	112	136	196	210	161
May	70	179	147	159	180	139	132	112	137	190	200	157
June	74	172	155	161	192	135	128	107	146	190	190	164
July	73	177	159	170	167	143	130	117	147	190	205	164
August	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159

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[1] Net pool price of 3.7% milk at Utica, N. Y.

growing market. Up to the present time the supply has been increased chiefly by extending the milk-shipping area. Future expansion is limited by high freight rates, by the tariff on imports of milk from Canada, and by the absence of other adjacent surplus-milk districts. A substantial increase in the price of milk in this territory during the winter months would increase the supply by stimulating heavier production in the present milk-shipping area at that season and by making longer shipments profitable.

Until recently most of the cream consumed in the New York market was shipped from the same area as the milk, but in the last few years a considerable part of the cream has been supplied by the middle western states, and by the Provinces of Ontario and Quebec. A twelve-months' record of cream shipments[2] from the middle western states is given in Table 1.

TABLE 1.—SHIPMENTS OF CREAM FROM WESTERN STATES TO THE NEW YORK MARKET (40 quart cans)

Month	Wisconsin	Illinois	Michigan	Minnesota	Iowa	Indiana	Ohio	Total western cream	Percent of total*
May	5,494	....	....	810	....	....	....	6,304	4.4
June	3,000	....	....	157	....	....	....	3,157	2.0
July	4,400	600	....	......	....	....	....	5,000	3.3
August	12,059	2,654	2,435	......	....	200	677	18,025	14.3
September	8,068	7,326	1,064	620	....	400	200	17,678	19.6
October	4,382	....	621	......	....	430	200	5,633	7.1
November	12,292	8,017	977	805	200	200	....	22,491	35.5
December	14,436	6,409	1,592	2,733	600	200	900	26,870	39.4
1925									
January	11,250	4,282	1,197	1,259	200	1,100	1,417	20,705	29.4
February	10,060	2,674	2,422	2,404	2,380	100	1,200	21,240	33.2
March	9,406	400	1,363	2,294	3,236	......	400	17,099	18.7
April	4,200	800	....	800	1,600	......	......	7,400	7.1
Year	99,047	33,162	11,671	11,882	8,216	2,630	4,994	171,602	14.2

*In terms of the whole milk equivalent, Western cream being expanded by 10 and New York receipts by 7.

In the four months—November, December, January and February—about one-third of the cream received at New York was supplied by these western states.

During the year 1924 about 178,000 forty-quart cans of cream were shipped into New York State from Canada. It is not known how much Canadian cream reached the New York market, but it is doubtful whether much cream would be imported for manufacturing purposes because of the duty[3]. Most of the Canadian cream came in during the summer.

The freight rate on cream in carloads from Reedsburg, Wisconsin to Jersey City is $1.74 per forty-quart can or less than 10 per cent of the value at destination. The cost of shipping cream in carloads from Brownsville, Ontario, to Jersey City, is $3.12 per forty-quart can ($1.12 freight plus $2.00 import duty), or less than 15 per cent of the value at destination. The cost of shipping cream in carloads from Ogdensburg, in St. Lawrence County, New York, to New York City, is 70 cents a can.

Competition from the middle west and from Canada will probably keep the price of cream in New York close to the butterfat value, but as the demand for whole milk increases, a decreasing proportion of the milk in this territory will be marketed as cream.

LELAND SPENCER

[2] The writer is indebted to officials of the Pennsylvania and Erie Railroads for the privilege of compiling these figures.

[3] The present duties are 25 cents per forty-quart can of milk and $2.00 per forty-quart can of cream.

FARM ECONOMICS

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BUSINESS CONDITIONS

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	113	111	....
1914	103	101	100	96	98	81	....
1915	100	101	103	119	74	101	101
1916	116	119	130	152	70	130	114
1917	170	180	181	140	92	124	129
1918	186	206	198	130	110	121	160
1919	206	215	210	160	102	94	185
1920	217	214	231	144	137	109	222
1921	144	119	150	118	125	48	203
1922	134	124	152	146	86	77	197
1923	142	137	157	155	95	112	214
1924	128	140	153	166	77	85	218
1925	148	154	162	221	77	97	223
July, 1924	129	138	150	164	70	60	214
August	133	146	153	170	58	63	216
September	129	137	152	170	53	68	221
October	127	145	155	169	53	77	217
November	134	145	156	178	58	83	218
December	135	147	160	190	67	96	223
Jan., 1925	136	154	163	201	77	110	223
February	136	153	164	203	80	111	220
March	136	157	164	200	82	109	224
April	141	152	159	201	83	102	218
May	150	151	158	209	82	91	221
June	157	153	161	214	81	87	220
July	150	156	163	222	75	88	220
August	156	160	164	228	70	88	222
September	148	152	163	236	69	89	223
October	147	151	161	243	72	92	225
November	165	153	161	248	75	97	226
December	159	152	159	250	80	103	229
Jan., 1926	....	150	162	252	90	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

The year 1925 was one of the most prosperous years for city industries. Prices of industrial stocks rose 30 percent during the year year. Earnings of factory workers remained high, the index for the year was 223. Retail prices of food averaged 162. This is an extremely favorable ratio of wages to food, but not quite so favorable as existed during the previous year.

In 1917, a week's earnings would buy only 90 percent of the pre-war amount of food. This checked building. For the last five years a week's earnings would on the average buy 45 percent more than the pre-war amount of food. This left a very large surplus to be spent for homes, automobiles and the like. It also resulted in a shift in food habits.

TABLE 1.—QUANTITY OF FOOD AT RETAIL PRICES IN THE UNITED STATES THAT A WEEK'S EARNINGS OF A NEW YORK FACTORY WORKER WOULD BUY

1914 = 100

Year	Amount of food
1915	102
1916	102
1917	90
1918	97
1919	101
1920	112
1921	135
1922	142
1923	149
1924	152
1925	145

In 1917, prices of farm products and wholesale prices of all commodities were much higher than wages or industrial stocks. From 1922 to 1925, wages and industrial stocks were higher than prices. If a man had invested $100 in stocks at the average prices in 1922, he could have sold in December, 1925, for a profit of 78 percent, besides having the dividends in the meantime. If he had bought farm land, he would now have had difficulty in renting it for enough to maintain the property and pay the taxes, and he would be fortunate if he could sell it at the purchase price.

TABLE 2.—INDEX NUMBERS OF BUSINESS CONDITIONS

PRE-WAR = 100

Year	Interest rates	Industrial stocks	Farm prices	Wholesale prices	Wages
1917	92	140	180	181	129
1920	137	144	214	231	222
1922	86	146	124	152	197
1925	77	221	154	162	223

Interest rates still remain low, but are higher than they were 15 months ago. There is no indication that high interest rates will come in the immediate future. Thus far, the cheap money has expressed itself in the spectacular rise in the prices of industrial stocks and prices of city real estate. These prices are so high as to result in considerable apprehension, and it does not seem probable that these forms of inflation can go much farther unless prices of commodities rise. At the present time, wages, city real estate, and shares in industrial concerns are more inflated than at any time before the crash of 1920. Farm property is drastically deflated, and commodity prices are relatively stable at about 60 percent above pre-war. If farther inflation occurs, it is possible that the fever of speculation may turn to commodites, but there is no indication of such a change at the present time.

Two other ways in which city prosperity is expressing itself, are in savings and in installment buying. Never before was there so good an opportunity for the laborer to save money. Thousands of thrifty persons are taking advantage of this. Savings accounts are at a high level. Thousands of other persons habitually spend all the money they earn and buy all that they are allowed to buy on credit. The cheap food, high wages, and full employment have so increased the credit of such persons, that installment buying is at a record level. During the previous periods of inflation, great quantities of goods accumulated in the channels of trade. Now the goods are in the homes and the stores have accumulations of accounts, rather than accumulation of goods.

The business outlook for the first half of 1926 promises a continuation of high consumption, and full employment. At the present time, no decided change is in sight. For the second half of the year, some recession in business activity may occur.

HOUSE RENTS IN CITIES

Apparently rents have reached the peak. Rents in the larger industrial cities are 179 percent pre-war. The cities that are nearer to farms have not received the full benefit of cheap food, because their prosperity is somewhat dependent on the prosperity of farmers. The index number of rents for the group of smaller cities, is 146. In farm towns they are distinctly lower. The same effect of deflation was illustrated following the Civil War. In 1868, rents in large cities stood at 177, and in smaller cities at 128.

TABLE 3.—INDEX NUMBERS OF HOUSE RENTS*
December, 1914 = 100

Year	7 large industrial cities—Baltimore, Buffalo, Chicago, Detroit, Philadelphia, New York	10 smaller cities—Jacksville, Los Angeles, Mobile, Portland, Me., Portland, Ore., San Francisco, Seattle, Washington, D. C.
December, 1914	100	100
December, 1915	101	103
December, 1916	103	107
December, 1917	108	106
December, 1918	114	113
December, 1919	128	127
December, 1920	155	146
December, 1921	165	151
December, 1922	167	149
December, 1923	175	149
December, 1924	179	147
December, 1925	179	146

*Monthly Labor Review. United States Bureau of Labor Statistics, Vol. XX, No. 2, p. 68-73, February, 1925.

G. F. Warren and F. A. Pearson

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	26.8	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1925												
January	112.0	54.0	162.1	82.4	107.0	271.8	4.08	22.7	12.70	164	70.2	145.5
February	114.5	53.4	169.8	84.8	112.2	275.3	4.27	23.0	12.83	194	72.3	160.2
March	112.1	49.7	164.0	81.5	112.4	267.8	3.91	24.5	12.39	189	71.4	180.8
April	103.8	44.7	140.5	76.1	104.1	244.7	3.84	23.7	12.84	202	70.5	196.2
May	107.5	45.4	149.1	75.9	113.3	251.8	3.91	23.0	12.17	251	70.6	189.1
June	111.0	48.3	152.7	76.4	112.3	246.8	4.28	23.0	11.82	280	84.4	170.2
July	104.4	45.3	140.3	73.5	115.7	227.6	3.98	22.3	12.48	290	125.5	188.7
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1*	59.5	85.7	224.5	5.43	17.2	13.31	......	220.5	149.3

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1925												
January	192	140	185	135	152	168	181	185	108	159	112	185
February	192	135	190	133	158	161	192	189	107	172	110	192
March	185	124	184	130	159	154	179	198	103	159	107	207
April	167	110	158	118	144	141	175	191	103	159	104	211
May	166	110	166	117	155	143	172	183	100	193	101	193
June	164	116	168	118	148	141	185	181	96	222	122	177
July	151	109	161	120	146	136	173	176	104	238	169	206
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	190
October	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January	120	104	181	97	121	139	241	140	113	......	352	190

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*August, 1909 to July 1914 = 100.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.8	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
January	145	73	18.5	48.6	41.3	54.81	5.63	8.50	7.86	12.69	42.8	9.31
February	151	78	19.1	35.7	38.7	54.79	5.69	8.87	8.41	13.13	43.2	9.62
March	155	81	20.0	23.9	39.5	56.19	6.18	9.21	8.20	13.48	43.0	11.83
April	158	83	21.1	24.2	39.7	56.85	6.55	8.80	8.42	12.22	40.8	11.64
May	179	82	22.0	24.8	39.5	57.88	6.48	8.35	7.53	11.99	36.9	10.78
June	201	81	21.6	26.1	38.2	57.79	6.46	8.18	7.04	11.62	35.7	10.82
July	159	81	21.4	27.9	39.2	57.95	6.55	8.65	7.17	11.71	39.4	12.02
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
January	150	53	173	164	145	116	112	125	171	219	231	132
February	147	55	175	136	142	115	111	131	185	221	234	135
March	143	56	179	111	153	115	117	133	171	217	230	160
April	138	57	183	142	156	115	119	130	166	189	227	154
May	146	57	186	149	160	117	118	127	152	186	207	149
June	164	56	183	156	163	116	119	121	148	184	204	151
July	155	57	180	167	171	118	123	128	157	192	225	166
August	166	57	173	174	169	118	123	128	166	208	214	163
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	153
December	178	54	181	160	163	121	118	133	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Onions bu.	Pota-toes bu.	Apples bu.	Cabbage cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	73	2.28	15.42	105	69	103	1.03
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.85
1925	123	57	164	89	104	4.13	12.95	184	107	126	2.46
1925											
January	135	63	174	95	102	4.10	13.00	136	59	120	1.94
February	136	66	188	101	110	4.40	13.40	152	61	125	2.00
March	143	61	185	96	121	4.40	12.60	156	55	130	1.78
April	128	60	156	92	104	3.90	12.40	172	49	133	1.60
May	129	59	168	97	109	4.20	12.00	200	48	150	3.60
June	134	60	178	97	106	3.75	12.00	259	50	162	2.70
July	126	59	163	91	122	4.00	12.30	290	86	126	4.30
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85
December	95	50	160	75	87	4.50	14.30	157	218	120	2.47
1926											
January	94	51	169	77	88	6.10	14.30	......	244	136	......

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Pota-toes	Apples	Cab-bage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
1925	165	117	166	116	139	173	84	188	155	155	257
1925											
January	188	140	176	127	144	175	85	168	92	148	240
February	192	140	188	135	153	188	88	171	88	144	230
March	201	130	185	125	170	190	81	144	81	144	163
April	180	122	156	119	142	171	80	164	71	129	155
May	177	118	168	123	145	179	76	180	67	133	308
June	179	118	175	121	138	160	74	204	71	165	211
July	166	116	161	117	145	165	77	221	125	143	172
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385
December	127	106	163	100	121	185	94	191	341	162	380
1926											
January	131	113	171	103	124	261	94	......	381	168	......

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	120	25.1	43	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1925												
January	110	24.3	57	46	2.67	70.00	12.00	5.40	6.60	14.00	50	10.20
February	115	24.0	48	45	2.55	68.00	11.50	5.70	7.00	13.60	51	10.50
March	114	25.1	31	45	2.51	69.10	11.50	5.50	6.50	14.00	48	11.30
April	118	25.4	28	46	2.39	73.00	10.90	6.00	6.20	13.40	44	12.60
May	124	26.6	28	46	2.14	77.30	9.70	6.30	5.90	12.40	40	11.90
June	133	26.1	31	45	2.05	77.00	10.10	5.90	6.20	12.60	38	12.10
July	128	26.9	35	46	2.10	80.70	10.60	6.40	6.10	12.50	43	12.30
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	115	23.5	61	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	117	25.6	46	51	......	82.95	12.10	5.90	5.90	12.80	43	11.70

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	93
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	78	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
1925	68	170	152	156	156	137	136	108	149	202	211	154
1925												
January	64	179	150	135	140	130	142	103	158	218	227	137
February	66	171	150	136	140	125	137	108	166	213	232	140
March	65	177	111	145	149	124	138	106	152	217	229	146
April	65	172	133	153	163	129	141	112	136	196	210	161
May	70	179	147	159	180	139	132	112	137	190	200	157
June	74	172	155	161	192	135	128	107	146	190	190	164
July	73	177	159	170	167	143	130	117	147	190	205	164
August	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159
December	65	170	149	156	140	145	139	108	147	209	210	163
1926												
January	68	188	121	150	......	154	143	112	141	199	195	157

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[1] Net pool price of 3.7% milk at Utica, N. Y.

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS

CORRESPONDING MONTH 1910-14 = 100

Year	New York	Pennsylvania*	Ohio*	Iowa	Missouri	North Dakota	Utah*	Oregon	Kentucky*	Georgia	Alabama*	Texas	United States
1910	101	99	103	98	101	108	108	107	103	110	107	108	104
1911	97	94	89	87	88	101	91	97	94	103	99	98	94
1912	101	101	101	102	101	102	96	96	98	86	90	92	99
1913	97	100	103	103	106	89	101	98	102	98	99	100	99
1914	103	103	105	109	110	98	103	102	108	91	96	95	101
1915	100	102	104	107	108	123	109	106	99	80	86	93	101
1916	116	115	120	120	120	126	123	114	112	117	114	120	119
1917	170	170	181	181	178	199	168	168	159	184	171	177	180
1918	186	193	201	202	200	221	188	191	207	242	221	220	206
1919	206	206	216	211	208	237	193	198	211	238	222	222	215
1920	217	217	210	187	188	240	198	195	216	257	234	217	214
1921	144	140	130	102	114	125	107	119	167	105	108	105	119
1922	134	127	127	106	112	111	106	119	157	147	136	132	124
1923	142	138	133	113	112	105	127	119	158	202	178	167	137
1924	128	136	134	121	116	122	129	121	154	202	176	166	140
1925	148	154	157	142	143	150	145	147	160	170	156	156	154
1922—													
January	142	129	115	95	99	100	95	108	162	131	121	116	117
February	139	128	123	99	110	101	110	109	161	125	115	113	116
March	138	130	131	108	115	125	121	120	159	130	121	121	124
April	132	125	131	104	115	131	111	113	154	130	122	123	123
May	138	131	135	109	116	132	117	122	156	126	124	123	126
June	138	134	128	110	117	132	127	127	153	144	137	132	129
July	141	128	127	110	112	119	117	128	154	152	140	139	129
August	125	123	119	110	107	114	113	121	156	159	144	136	125
September	124	117	121	98	108	75	112	116	154	157	142	140	119
October	122	123	127	107	112	98	113	121	154	156	143	134	122
November	131	129	130	110	114	101	115	121	159	177	160	150	129
December	136	134	134	116	117	107	121	123	160	181	164	157	134
1923—													
January	127	132	133	118	117	102	122	125	164	190	165	161	137
February	132	132	134	112	114	108	131	120	163	200	175	164	136
March	133	132	133	111	114	108	132	123	158	215	180	173	138
April	143	132	134	111	114	113	124	119	157	211	182	175	139
May	148	140	139	113	113	117	129	123	155	191	175	165	138
June	163	144	140	112	109	109	127	127	152	190	171	158	134
July	157	141	131	110	106	102	128	127	155	191	170	163	134
August	149	143	132	108	105	97	124	116	156	181	165	162	129
September	151	144	129	114	115	99	128	115	157	190	174	153	133
October	147	142	129	113	109	105	128	114	157	210	185	166	138
November	143	141	130	114	113	104	128	116	159	221	197	177	141
December	135	138	129	114	110	103	127	109	159	233	201	186	143
1924—													
January	123	131	128	113	114	111	122	111	161	244	201	191	143
February	123	133	130	113	112	113	123	110	160	238	203	185	142
March	125	133	128	111	108	117	128	108	153	211	180	171	136
April	130	132	130	110	108	113	124	106	157	220	182	167	135
May	129	130	130	112	107	111	124	109	159	212	181	164	135
June	135	136	127	111	105	110	124	113	149	201	177	165	134
July	129	136	125	119	109	125	130	119	143	199	172	166	138
August	133	142	133	130	121	129	127	133	150	203	179	175	146
September	129	137	137	128	122	118	131	130	148	170	153	148	137
October	127	137	145	136	130	136	131	140	151	179	162	153	145
November	134	144	144	134	127	139	140	142	155	174	159	155	145
December	135	146	148	138	129	147	143	140	156	171	158	154	147
1925—													
January	136	146	154	147	144	167	145	155	160	175	159	158	154
February	136	146	154	143	140	166	148	152	161	176	162	160	153
March	136	148	157	149	146	163	156	152	159	186	169	170	157
April	141	149	156	143	140	138	144	144	160	177	163	159	152
May	150	152	159	142	142	148	144	146	159	172	161	159	151
June	157	158	162	144	142	150	144	144	152	167	158	142	153
July	150	163	166	149	146	146	145	148	155	174	156	162	156
August	156	162	160	149	149	153	138	151	160	177	160	166	160
September	148	152	155	137	144	138	146	140	158	170	157	151	152
October	147	151	154	134	141	134	140	142	160	167	155	162	151
November	165	160	156	133	145	140	147	149	163	148	141	142	153
December	159	160	157	134	142	157	149	146	162	146	137	141	152
1926—													
January	......	......	......	134	......	162	144	146	......	150	137	138	150

*Index numbers for Pennsylvania were prepared by F. P. Weaver, Department of Agricultural Economics, State College, Pa.; those for Ohio by J. I. Falconer, Department of Rural Economics, Ohio State University, Columbus, Ohio; those for Missouri by D. R. G. Cowan, Department of Rural Life, Missouri Agricultural Experiment Station, Columbia, Missouri; those for Utah by J. A. Ellsworth; those for Kentucky by C. U. Jett, City National Bank, Paducah, Ky.; and those for Alabama by J. D. Pope, Polytechnic Institute, Auburn, Ala.

PRICES OF FARM PRODUCTS IN THE UNITED STATES

For six crop years, the agricultural depression has continued. Last year was the best year of the six. As a whole, agriculture is still in very bad condition. Some regions show no improvement over last year. Others, such as the potato section in Maine, had a good year. Considering the country as a whole, the index numbers of prices probably show the situation as well any brief statement can present it. With taxes and wages more than double pre-war, and prices of the things that the farmer buys, about 75 percent above pre-war, the index number of 154 for farm products, shows that the agricultural depression is not over.

TABLE 1.—PRICES PAID TO FARMERS IN THE UNITED STATES
1910-14 = 100

Year	Index	Points advance
1921	119	....
1922	124	5
1923	137	13
1924	140	3
1925	154	14

In December, the following products were higher in price than they were a year ago: wheat, hay, onions, potatoes, sweet potatoes, apples, horses, chickens, butter, milk cows, beef cattle, veal calves, sheep, lambs and hogs.

The following products were lower than last year: corn, oats, barley, buckwheat, flaxseed, beans, cotton, eggs, and wool.

Of the 24 products listed above, 15 are higher than last year and 9 are lower.

Prices of farm products for different states are given on page 376. Prices have improved in the northern states and declined in the southern states. The disparity between different states is decreasing.

FARM, WHOLESALE, AND RETAIL PRICES OF FOOD

For the year 1924, the index number of prices paid to farmers for food products was 126, last year it was 153. In the same period, prices of food at retail rose from 150 to 162. Farm prices rose 27

TABLE 2.—FARM WHOLESALE AND RETAIL PRICES OF FOOD IN THE UNITED STATES

	Prices of food in the United States		
Year	Prices paid to farmers[1]	Wholesale prices in cities[2]	Retail prices in cities[2]
1913	101	99	103
1914	105	101	105
1915	106	104	104
1916	120	120	118
1917	180	165	151
1918	197	186	173
1919	210	205	192
1920	209	218	209
1921	128	143	158
1922	122	137	146
1923	122	143	151
1924	126	143	150
1925	153	156	162

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[1] Corresponding months 1910-14 = 100. Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9.

[2] United States Bureau of Labor Statistics.

points and the retail prices 12 points. Since freight and handling costs of food change very little, a rise in farm prices does not cause a corresponding increase in retail prices.

It is probable that prices paid to producers of farm products will come into adjustment with retail prices of food when retail prices are about 75 to 80 percent above pre-war.*

PRICES OF FARM PRODUCTS IN NEW YORK

The year 1924 was the worst year of the agricultural depression for New York farmers. The past year was considerably better. Conditions in different parts of the state and for different farms in the same district are exceedingly variable. One of the characteristics of a period of deflation is the variability of the results. The farmer who had a large crop of potatoes this year has had an excellent year. But some potato growers were unable to dig the crop because of excessive rains. They lost heavily. It was a good year for egg producers. Milk paid much better than in 1924. Milk and butter prices both average 56 percent above pre-war prices. Sheep were very profitable. Hay continues to be very cheap. Prices of hay for the year averaged 16 percent below pre-war.

The combined price index for various farm products sold by New York farmers was 128 in 1924 and 148 in 1925. The past year has been much better than the previous year and somewhat better than any year since 1920.

Of the various products sold by New York farmers only two, potatoes and cabbages, are now higher than are the index numbers of earnings of factory workers.

For December, 1925, prices of ten products, chickens, lambs, wool, cabbage, wheat, beans, onions, potatoes, apples, and hogs, were as high as the general price level.

Thirteen products, corn, oats, barley, buckwheat, hay, horses, eggs, butter, milk, milk cows, veal, beef cattle, and sheep, were lower in price than the general price level.

The weighted average of all products for December was the same as the general price level as indicated by the United States Bureau of Labor Statistics index number for all commodities, 159. At the present time, eggs are very much cheaper, and the outlook this year is less promising than last year. The price of hogs is better than last year and promises to continue to be good. Lambs and wool are somewhat lower in price than last year. The outlook for these depends to a considerable extent on industrial conditions.

The demand for milk promises to continue high, and the number of dairy cows is decreasing. The supply of grain feed is abundant. The outlook appears to be better than last year. The high prices for potatoes, cabbages, and onions may cause too large an acreage to be planted. A considerable portion of the improvement in conditions this year is due to the weather, but underlying conditions are improving.

G. F. WARREN and F. A. PEARSON

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*Farm Economics No. 14, p. 131, 1924.

DAIRY AND BEEF CATTLE

From 1920 to 1925, the number of dairy cows in the United States decreased 10 percent. The number on January 1, 1925, was the lowest number in 20 years. The increase in milk production per cow makes it possible to get along with fewer cows than formerly. Apparently the decrease has been too great. The number of dairy heifers decreased 19 percent in 5 years. The number was too large, but is now too small to maintain the present number of dairy cows. There were only 17 yearling heifers for each 100 dairy cows. The total number of calves also showed a decrease of 16 percent. Results for a limited number of states indicate that the decrease is in dairy calves. It seems probable that when a shortage of dairy cows comes there will be an increase in the number of calves raised. When the price of cows rises above the cost of production, there is a tendency to raise too many calves. The effect of the shortage is beginning to be apparent. In December, 1924, the average price of dairy cows on farms was only 8 percent above pre-war prices, last December it was 21 percent above. During the same time prices of dairy cows on New York farms rose from 17 to 45 percent above prewar. Apparently there will be a shortage of dairy cows until dairy calves not yet born become cows. This probably indicates a shortage for 2 to 4 years. The shortage is a direct result of the financial losses which dairymen suffered.

TABLE 1.—CENSUS REPORTS OF CATTLE ON FARMS ON JANUARY 1.

	1920	1925	Percentage change
Dairy cows 2 years old and older	19,675,297	17,700,851	—10
Dairy heifers 1 year old and under two	4,048,851	3,264,572	—19
Beef cows 2 years old and older	12,624,996	15,066,795	+19
Beef heifers 1 year and under two	3,981,205	4,038,498	+1
Steers 1 year old and older	9,280,125	6,989,609	—25
Total cattle	66,652,559	61,571,752	—8

About one-third of the cost of producing milk on farms is direct labor on cows, and another third is labor cost of raising hay and silage to feed the herd. When pre-war earnings are considered as 100, the earnings of factory workers in New York State for the last five years have averaged 211. Farmers have received only 144 for milk. Neither the farm price of milk, nor the price of dairy cows, has justified the raising of heifers. Furthermore, the beef value of dairy cows has been so low as to make farmers reluctant to raise heifers to replace cows. Even the best beef has sold at low prices. With wages so high and food so cheap, poor beef has been almost unsalable. The beef value of discarded cows has averaged below pre-war prices. As a result of the decrease of 8 percent in the total cattle in the United States, discarded dairy cows are beginning to sell a little more readily.

Consumers have not realized what has happened on farms because retail prices are much above pre-war. The spread between farm prices and retail prices of milk is much greater than formerly. The handling charges between the farmer and consumer are practically all labor and are nearly double pre-war. The primary reason why milk has not retailed at double pre-war prices or at 18 cents instead of 15, is because the farmer has been working for low wages. For the past five years, New York farmers have received an average of 44 percent above pre-war prices for milk. The year 1924 was the worst year that New York dairymen have had. Improvement occurred in 1925 and promises to continue this year.

Leland Spencer has calculated the following data for the number of dairy cows and other dairy cattle in the counties from which the New York market draws most of its supply of milk and cream. In five years the number of cows decreased 8 percent and the number of other dairy cattle, chiefly heifers, decreased 28 percent. (Table 2)

TABLE 2.—CHANGES IN THE NUMBER OF DAIRY CATTLE IN THE NEW YORK MARKET-MILK AREA, 1920-1925

	Number of dairy cows				Number of other dairy cattle			
	1920	1925	dec.	% dec.	1920	1925	dec.	% dec.
New York—42 counties....	1,251,195	1,157,756	93,439	7.5	506,586	363,914	142,672	28.2
New Jersey—3 counties......	50,086	46,238	3,848	7.7	16,065	9,907	6,158	38.3
Pennsylvania—4 counties ..	107,263	103,714	3,549	3.3	50,008	35,280	14,728	29.5
Vermont—4 counties............	91,812	87,434	4,378	4.8	38,763	29,620	9,143	23.6
Total—53 counties	1,500,356	1,395,142	105,214	7.0	611,422	438,721	172,701	28.2

During the same period (1920-1925) the consumption of milk in the New York market increased 28 percent and the consumption of cream increased 36 percent. A larger proportion of the milk produced in these counties is being shipped to the New York market each year and more cream is being brought in from Canada and the Middle West.

The number of beef cows increased 19 percent in five years, heifers 1 percent, while steers decreased 25 percent. Apparently the beef raisers have retained their cows which could not be sold to advantage and have sold steers and heifers.

A very considerable amount of beef comes from dairy cattle. The total number of cattle decreased 8 percent. The total number of beef and dairy cows combined is practically the same as in 1920, but the number of beef and dairy yearling heifers decreased 9 per cent, and calves decreased 16 percent. Probably the beef supply will decline. Population has increased 8 percent in the past five years.

G. F. WARREN and F. A. PEARSON

POULTRY

For 16 years a dozen eggs at United States farm prices on the average would buy 15.0 pounds of grain (one-half wheat and one-half corn by measure). For the year 1925, a dozen eggs would buy 14.1 pounds. The very favorable ratio of grain to eggs for the previous four years resulted in too large an expansion. The egg-grain ratios are given in Table 1.

The poultryman who buys his feed is as interested in the egg grain ratio as in the price of eggs. This ratio was extremely high in 1921, but has since declined. However, it has been favorable for four years. At the present time, both grain and eggs are cheaper than last year. On the average for 16 years a dozen eggs would buy 24 pounds of grain in January. In January, 1926, a dozen eggs would buy only 18.5 pounds of grain.

The prices of eggs last year were considerably better than for the previous year and the best since 1921. The cold storage holdings have not been disposed of and prices have dropped so low as to cause heavy losses in the storage business. It is possible that this may effect the price paid for eggs this spring, as those who store eggs tend to be afraid to buy after a year when losses have occurred.

TABLE 1.—POUNDS OF GRAIN THAT A DOZEN EGGS WOULD BUY AT UNITED STATES FARM PRICES (GRAIN MIXTURE- ONE,HALF BUSHEL EACH OF CORN AND WHEAT)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly Average*
Five-year-average 1910-14	23.9	20.5	16.7	13.1	12.6	12.1	12.4	12.8	13.9	16.4	19.5	24.2	15.4
1910	21.3	19.7	15.6	12.7	13.2	13.1	13.1	12.3	13.9	16.8	20.6	24.6	15.3
1911	25.8	18.4	14.2	13.0	12.5	11.9	11.5	12.1	13.4	15.0	17.4	22.2	14.6
1912	22.9	21.7	18.0	12.6	11.1	10.4	10.8	11.9	13.5	16.7	21.1	27.5	15.1
1913	24.8	20.2	17.0	14.4	13.5	13.6	13.6	14.0	14.8	17.7	21.6	25.8	16.4
1914	23.6	22.0	18.5	13.1	12.5	12.6	13.4	13.8	13.9	15.9	17.4	21.1	15.7
1915	21.1	16.7	11.8	9.3	9.1	9.2	10.8	10.6	12.6	16.0	19.6	23.7	12.7
1916	21.4	17.2	14.3	12.3	12.0	12.7	13.6	12.9	12.6	14.9	15.3	17.7	14.2
1917	18.2	15.9	14.8	10.2	8.8	8.8	8.5	8.1	10.0	11.5	13.2	15.2	11.4
1918	16.0	16.9	13.1	10.2	10.0	9.7	10.0	11.0	11.4	13.2	15.8	18.7	12.2
1919	19.0	16.2	11.1	10.9	10.9	11.2	10.7	11.2	12.2	14.3	18.1	20.6	12.8
1920	20.2	17.2	14.4	11.5	10.3	9.7	9.7	11.7	13.7	17.4	24.0	35.7	14.2
1921	32.8	27.1	16.0	12.0	13.7	11.8	14.7	18.5	22.4	25.3	37.8	43.7	19.5
1922	38.1	26.0	17.2	13.1	13.5	13.8	14.6	14.7	17.5	23.3	27.1	32.0	18.7
1923	29.3	22.3	19.6	13.8	13.6	13.2	13.3	15.5	17.5	21.0	24.9	33.7	18.0
1924	24.1	22.3	13.4	12.7	13.1	13.6	13.1	13.5	16.5	18.5	22.8	23.4	15.8
1925	20.6	14.6	10.0	11.5	11.2	11.5	13.2	13.5	14.8	19.9	24.2	24.9	14.1
Average 1910-25	23.7	19.7	14.9	12.1	11.8	11.7	12.2	12.8	14.4	17.3	21.3	25.7	15.0

*The yearly average is weighted by the seasonal production of 400 farm flocks on Missouri farms. The index numbers of seasonal variation in production being as follows: Jan., 78; Feb., 87; Mar., 153; Apr., 146; May, 159; June, 125; July, 110; Aug., 96; Sept., 90; Oct., 71; Nov.,. 39; and Dec., 46. 1924 Agriculture Yearbook, p. 405.

The farmer who raises his own feed is more interested in the purchasing power of eggs than in the egg-grain ratio. The purchasing power was below the pre-war level for four years, but has been improving for two years and averaged above the pre-war level for the last six months of the year 1925.

The demand for eggs is high. If industrial conditions continue favorable throughout the year, it would not be surprising if egg prices would be depressed for a time during the storage season, but rise thereafter as they did last year. The present outlook for feed prices is more favorable than last year, but the outlook for egg prices is less favorable.

G. F. WARREN and F. A. PEARSON

HOGS

In 1914 there were 59 million hogs in the United States. The number increased to 75 million in 1919, dropped to 56 million in 1921, rose to 68 million in 1923 and dropped to 51 million in 1926. According to estimates of the United States Department of Agriculture, there are fewer hogs than any time in the past twenty years. This decided decrease in hogs is due in part to high-priced corn when hogs were cheap and is in part a direct result of the agricultural depression.

The United States Department of Agriculture reports of the number of sows bred this past fall indicates that there will be some decrease in the number of pigs raised next spring. This report was made December 1st. The low price of corn may increase the breeding. In any event, hogs will doubtless be high for the remainder of this year. The cheap corn will result in an over-production of hogs. This may be felt next winter, and probably will be serious a year later.

TABLE 1.—NUMBER OF HOGS ON FARMS IN THE UNITED STATES, ON JANUARY 1

Year	Number
1911	66,000,000
1912	65,000,000
1913	61,000,000
1914	59,000,000
1915	65,000,000
1916	68,000,000
1917	68,000,000
1918	71,000,000
1919	75,000,000
1920	59,000,000
1921	56,000,000
1922	58,000,000
1923	68,000,000
1924	66,000,000
1925	56,000,000
1926	51,000,000

G. F. WARREN and F. A. PEARSON

HORSES AND MULES

The number of horses and mules in the United States as reported by the census is given in Table 1. There has been a steady increase in the number of mules for many years. The number of horses has declined very rapidly since 1918.

The number of horses over 2 years old January 1, 1925, was 15 million (Table 2), a decline of 2 million since 1920, which is a decline of about one-eighth. The number of colts is less than half the number 5 years ago.

TABLE 1.—NUMBER OF HORSES AND MULES ON FARMS IN THE UNITED STATES AS REPORTED BY THE CENSUS

Year	Number of Mules	Number of Horses	Ratio
1850*	559,331	4,336,719	7.75
1860*	1,151,148	6,249,174	5.43
1870*	1,125,415	7,145,370	6.35
1880*	1,812,808	10,357,488	5.71
1890	2,251,876	15,266,244	6.78
1900	3,445,029	21,216,888	6.16
1910	4,209,769	19,833,113	4.71
1920	5,432,391	19,767,161	3.64
1925	5,730,608	16,535,759	2.89

*Prior to 1890, asses and burros were included with mules.

The number of colts under 2 years of age is given as 1,194,000. There must, therefore, be approximately 600,000 of each age. If the average horse that is 2 years of age continues in service until he is 14 years old, the number of horses disappearing each year would be about 1,300,000. Since only 600,000 colts are being raised, a decline of about 700,000 in the number of horses per year is to be expected. The number on farms, January 1, 1926, is about 14,600,000.

TABLE 2.—HORSES AND MULES ON FARMS IN THE UNITED STATES

	Under 2 years of age			2 years old and older		
Year	Horses	Mules	Total	Horses	Mules	Total
1910	3,464,000	626,000	4,090,000	16,369,000	3,584,000	19,953,000
1920	2,532,000	781,000	3,313,000	17,235,000	4,652,000	21,887,000
1925	1,194,000	433,000	1,627,000	15,342,000	5,298,000	20,640,000

Since the number of colts born this year and the number of mares bred this year is no greater than the numbers for 1923 and 1924 and since the number bred this year will be about the same, it is possible accurately to forecast the number of horses during the next four years. (Table 3).

TABLE 3.—ESTIMATED NUMBER OF HORSES AND MULES, 2 YEARS OLD AND OLDER, ON FARMS IN THE UNITED STATES

Year	Horses	Mules	Total
1910	16,400,000	3,580,000	20,000,000
1920	17,200,000	4,650,000	21,900,000
1925	15,300,000	5,300,000	20,600,000
1926	14,600,000	5,070,000	19,700,000
1927	13,900,000	4,840,000	18,700,000
1928	13,200,000	4,610,000	17,800,000
1929	12,500,000	4,380,000	16,900,000
1930	11,800,000	4,150,000	16,000,000

The number of mules over two years old on January 1, 1925, was 5,298,000, an increase of 646,000 in five years. The number of mule colts is a little more than half the number five years ago. Only about 216,000 mules are being raised per year. The decrease of mules is probably about 230,000 per year.

The number of horses and mules, 2 years and older, for January 1, 1929, is already determined by the numbers on hand and the mares bred. It does not seem probable that there will be any material increase in the number of mares bred until prices rise very materially. Therefore, it seems probable that the number of horses and mules, 2 years old and older, will decline well below 16 million head. The number of colts reported by the census would maintain the present horse supply if the average horse lived to be 28 years of age and the average mule 26 years. If we continue to raise this number of colts there would ultimately be about one-half of the present supply of horses and mules, or about 10 million animals over 2 years old. Judging by past experience the decline will continue until there is a distinct shortage of horses, after which too many will be raised.

TABLE 4.—STALLION ENROLLMENT IN FIVE STATES
(Iowa, Illinois, Minnesota, South Dakota and Indiana)

	Number Stallions			Index Numbers 1913 = 100		
Year	Pure Bred	Grade	Total	Pure Bred	Grade	Total
1913	17,313	11,900	29,213	100	100	100
1914	17,635	11,349	28,984	102	95	99
1915	17,895	10,749	28,644	103	90	98
1916	17,333	9,715	27,048	100	82	93
1917	15,988	8,300	24,288	92	70	83
1918	13,420	6,078	19,498	78	51	67
1919	10,900	4,327	15,227	63	36	52
1920	9,280	3,032	12,312	54	25	42
1921	8,272	2,275	10,547	48	19	36
1922	7,767	1,516	9,283	45	13	32
1923	8,122	1,481	9,603	47	12	33
1924	5,875	1,187	7,062	34	10	24
1925	7,013	1,293	8,306	41	11	28

The farmer who is so situated that he can raise horses to advantage should keep good mares and apparently might moderately increase his breeding.

Most farmers in New York State find it more profitable to buy horses than raise them. Such persons will doubtless find it profitable to dispose of old animals and obtain good young ones while they are cheap.

The decline in the number of stallion registered in five states is shown in Table 4. For each 100 grade stallion registered in 1913 only 11 were registered in 1925. The ratio of decrease for purebred stallions was from 100 to 41. The decrease in grades has been much greater than the decrease in purebreds.

In 1923 there were less than one-third as many stallions as in 1913, but there was an increase over the year 1924. Undoubtedly there were too many stallions in 1913, but there are doubtless too few now.

TABLE 5.—AVERAGE PRICE OF MULES PER HEAD WHEN HORSES = 100

Period	Price of mules when horses = 100
Horses high in price, 1883 to 1893	113
" low " " 1894 to 1904	124
" high " " 1905 to 1915	115
" low " " 1916 to 1925	129

In a few counties in New York, high pressure salesmen have already appeared and sold stallions to groups of farmers at prices far above the prices which it is necessary to pay. A common method of procedure is to get about 18 farmers to subscribe $200 each, to buy a $3,600 stallion, which no one of them has ever seen. Farmers should do their own organizing and choose their own stallion, rather than pay an agent $2,000 or $3,000 for persuading them to buy one "sight unseen."

TABLE 6.—NUMBER OF HORSES AND MULES IN FOUR CITIES*

Year	New York	Chicago	Philadelphia	Baltimore	Total
1900	130,506	74,334	50,879	18,992	274,711
1910	129,331	69,298	51,765	17,146	267,540
1920	57,712	31,173	20,228	8,199	117,312
1925	39,821	23,068	13,957	5,739	82,585

*Unpublished manuscript, Thurston, M. F. Method of Estimating the Decrease in Numbers of Horses and Mules Not on Farms, 1925. Department of Agricultural Economics and Farm Management. New York State College of Agriculture, in cooperation with Division of Farm Management, Bureau of Agricultural Economics, United States Department of Agriculture.

Mules have steadily risen in number compared to horses. In 1850 there were nearly 8 times as many horses as mules. In 1925 there were less than 3 horses for each mule. Horses have declined since 1900, but the number of mules has steadily risen. Although the horses have declined rapidly in the past five years in every section of the United States, mules have increased in numbers nearly everywhere. Apparently mules are more stable in price than are horses. When horses have been very cheap, mules have declined less. (Table 5)

The number of horses in four cities, as estimated by M. F. Thurston, is given in Table 6. The number in 1925 is 70 percent of the number in 1920 and 31 percent of the number in 1900.

When the ratio of the price of horses per head on January 1, to the value of 100 bushels of oats and three tons of hay for 55 years, is considered as 100, the ratio for the three years, 1924 to 1926, was 74. Presumably, in about 10 years, horses will again be high in price compared with feed. It is interesting to note that the horse-feed ratio has not dropped as low as it did in 1895-97 and only a little lower than the drop in 1880-82.

Prices of horses averaged $76 in 1924, which was the lowest point in this cycle. For 1925 they averaged $78.

G. F. WARREN and F. A. PEARSON

EFFECTS OF THE GASOLINE ENGINE

The number of horses and mules in cities in the United States in 1910 was 3,453,000. This number declined to 2,084,000 in 1920. The number of horses and mules in a number of cities in 1925 was 30 percent below the number in 1920 (page 380). At this rate of decrease the number in cities now would be 36 percent below 1920, or about one million on January 1, 1926. On farms there are about 21 million, or a total of 22 million. During the period 1911 to 1918 the total number of horses and mules on farms and in cities was about 28 million. The reduction up to January 1, 1926, is therefore about 6 million or a reduction of 21 percent.

Formerly, about 24 percent of the corn crop, 57 percent of the oat crop, 10 percent of the barley, and 48 percent of the hay crop were fed to horses and mules. A reduction of 21 percent in the number of horses and mules ,therefore, has caused a loss in the market for 5 percent of the corn crop, 12 percent of the oat crop, 2 percent of the barley crop and 10 percent of the hay crop, besides a decline in the pasture area needed. Apparently the reduction in the number of horses and mules up to January 1, 1926, makes a reduction of 18 million acres in the crop area required, besides the reduction in the acreage of pasture.*

According to the United States Department of Agriculture, the total acreage of crops was about 365 million acres. About 5 percent of this acreage was therefore required to raise feed for the horses and mules that have disappeared.

The present rate of decrease of horses and mules is nearly one million a year. By January 1, 1930, the decrease will release 12 million more acres of crop land, or 3 percent of the crop acre. The total acreage released by 1930 will amount to about 30 million acres, or 8 percent of the crop area of the nation, or about 0.8 per cent per year.

Because of the use of gasoline engines the horses remaining on farms are fed less per head than formerly. The amount of the decrease has not been estimated.

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*The United States Department of Agriculture (Yearbook 1921, p. 165) estimated that in 1918 about 20 percent of the corn crop was fed to horses and mules on farms, and 5.5 percent was fed to livestock in cities. If a total of 24 percent was used by horses and mules, a reduction of 21 percent in the number of these animals would take away the market for about 5 per cent of the corn crop of the United States.

In 1909 and again in 1919, the census reports that 26 percent of the oat crop was sold. Probably one-half of this was fed to horses and mules in cities. Of the portion fed on farms, 68 percent was fed to horses and mules (*Monthly Crop Reporter*, August, 1919, p. 77). If allowance is made for seed, the horses and mules on farms and in cities consumed about 57 percent of the total oat crop. A reduction of 21 percent amounts to 12 percent of the oat crop.

In 1919, the census reports that 37 percent of the barley crop was sold. Of the amounts fed on farms 18 percent was fed to horses and mules. After allowing for seed about 10 percent of the crop was eaten by horses and mules. The reduced numbers would release 2 percent of the barley crop.

In 1909 and again in 1919, the census reports that 19 percent of the hay crop was sold. Probably two-thirds of this was fed to horses and mules. Of the amount fed on farms, 45 per cent was fed to horses and mules (*Monthly Crop Reporter*, August, 1919, p. 77). About 48 per cent of the total crop was fed to horses and mules. The decrease of 21 percent in the numbers would release 10 percent of the hay acreage.

The total acreage of these farm crops released, therefore, amounts to 18 million acres.

The increase in population in the United States amounts to 1.5 percent per year. This is frequently cited as the solution of the agricultural depression. But the reduction in the number of horses and mules releases 0.8 percent of the crop area each year, or one-half enough to take care of the increase in population.

The reduced use of grains for the production of alcoholic drinks also reduced the market for products that required about 1.5 percent of the total crop area. This would provide for one year of population growth.

The farmers of United States have been called on to suddenly readjust their business, to meet financial deflation, the reduced use of land for growing horse feed, and the reduced use of materials for producing alcoholic drinks, at a time when the buying power of Europe has been very low and when the prices of products which farmers buy, and wages and taxes which they must pay are very high. It would be very difficult to imagine the simultaneous occurrence of a greater number of problems. While deflation was the primary trouble, the other factors have aggravated the difficulty. The distressed state of agriculture has set in motion a set of readjustments that will ultimately go too far and bring about too small a production. However, it may be a number of years before this occurs. When the time comes the food shortage is likely to be as disastrous to cities as is the present surplus to farmers.

A portion of the low prices of the last 5 years has been due to the gasoline engine. For the past five years, the average of prices paid to farmers for all products, when pre-war is considered as 100, has been 135. Index numbers for horses have averaged 59; corn, 120; oats, 103; barley, 96; and hay, 105. Oats and hay have been practically at pre-war prices. These are largely used for horse feed and substitute uses are so difficult to find that the reduction in the number of horses has greatly effected prices. While these products have been so close to pre-war prices, wheat has averaged 32 percent above pre-war, or nearly as high as the average of all farm products. Corn can be used for so many purposes that the reduced use for horse feed has effected the price less. Apparently, oats, barley and hay are not likely to have the pre-war price relationship to other farm products for many years.

G. F. Warren and F. A. Pearson

PRICE CYCLES FOR LIVESTOCK

During the past fifty years, horses were very high in price twice, beef cattle 3 times, sheep and eggs 6 times, and hogs 9 times. In each case good profits resulted in over-production, the date of which was determined by the life history of the animal. Low prices resulted in under production, the date of which was again based on the life history. For example, if horses are high, colts tend to be raised in too large numbers, but it is 5 years after the decision is made before the first crop of four year old colts is available for use, and a number of years more before enough colts can be raised to cause prices to fall. Prices begin to fall when there are too many mature horses. When that time comes, there are on hand several excessive crops of colts.

Four times in 50 years the prices of horses were in approximate adjustment with the cost of production. Prices of beef cattle were in adjustment 6 times in 50 years.

The longer it takes to change the number of animals, the more violently prices swing out of adjustment. In the last decline in prices the purchasing power of horses dropped 64 percent, beef cattle 55 percent, and hogs 41 percent. In the last advance, sheep rose 72 percent in purchasing power. Usually the sheep cycle is much less violent, but the rise during the war, the drop after the war, and the present rise were extremely violent. Cycles in the purchasing power of eggs are much less violent. The last rise was 10 percent.

TABLE 1.—CYCLES IN PURCHASING POWER

	Years	Average period from low to high or high to low	Variation in length of periods	Percentage change in last ½ cycle	Character of cycle	Long time trend	Present position
Horses	46	11 years	10-14 years	—64	Regular	down	low
Beef cattle	48	8 years	6-10 years	—55	Very regular	stationary	1 yr. up
Sheep	49	4½ years	3-6 years	+72	Irregular	up	4 yrs. up
Eggs	51	4½ years	3-6 years	+10	“	“	3 yrs. up
Hogs	63	32 months	15-65 months	—41	“	“	22 mos. up

At the present time the horse cycle is at the bottom. Beef cattle have been rising for one year, eggs for 3 years, sheep 4 years, and hogs for 22 months.

G. F. WARREN and F. A. PEARSON

NUMBER OF APPLE TREES

There was a rapid expansion in apple growing from 1890 to 1910, and the number of apple trees of bearing age increased 26 percent. From 1910 to 1925, the number declined 31 percent, and the number of not bearing trees declined 44 percent. The total number of trees of all ages in 1910 was 217 million, and in 1925 was 142 million.

TABLE 1.—NUMBER APPLE TREES OF BEARING AGE

Year	Hudson Valley	Western New York	Remainder New York	New York	United States
1890	2,195,543	5,210,836	7,022,002	14,428,831	120,152,795
1910	1,880,193	4,582,452	4,785,558	11,248,203	151,322,840
1920	1,773,231	4,519,894	3,343,573	9,636,698	115,309,165
1925	1,867,675	4,802,696	2,783,756	9,454,127	105,000,000*

*Estimated from reports thus far issued.

The number of trees in New York state has steadily declined. This is, however, due to decline outside of the apple belts. The number of bearing trees in the Hudson River Valley and in Western New York has remained fairly constant. It was higher in 1925 than in 1920. In New York State the advantages of raising apples near large bodies of water are so great as to maintain the industry in

TABLE 2.—NUMBER APPLE TREES NOT OF BEARING AGE

Year	Hudson Valley	Western New York	Remainder New York	New York	United States
1910	....	....	....	2,828,515	65,791,848
1920	892,696	1,346,190	693,395	2,932,281	36,195,085
1925	866,192	944,406	647,372	2,457,970	37,000,000*

*Estimate from reports thus far issued.

these regions, and strikingly decrease it in other parts of the state. In 1890, one-half of the apple trees were in the Hudson River Valley and in Western New York. In 1925, these regions had 81 percent of the total bearing trees. Not only are the trees going into these districts, but if data were available for smaller units than counties, it would show that apple production is constantly moving to desirable soils near water.

The past fifteen years has been a period of over-production of apples. Apparently, the Hudson River Valley and Western New York have been able to stand the depression better than most regions.

G. F. WARREN and F. A. PEARSON

POTATO PRODUCTION

According to the United States Department of Agriculture, the potato crop this year is 323 million bushels, which is about one-fifth less than the normal production. Only once in the past twenty years (1916) was the production less. The production per capita this year is 27 percent below the average for the preceding three years.

Very high prices so far this season indicate that the shortage may be somewhat more than the Government's estimate. Based on past relationships between the United States crop and the New York City price, the most probable season's price for a 323 million bushel crop would be $5.79 for State potatoes bulk per 180 pounds at wholesale prices in New York. The price from October 10 to January 23 averaged $6.58. This is 14 percent higher than the predicted price of $5.79.

TABLE 1.—PRODUCTION AND SHIPMENT OF POTATOES IN THE UNITED STATES AND PRICES IN NEW YORK CITY

					Percent 1925 is above or below three-year average, 1922-24	
	1925	1924	1923	1922	Above	Below
Production, millions of bushels	323	425	412	453	......	25
Production per capita, bushels	2.78	3.72	3.66	4.09	......	27
Shipments, carloads						
Before October 1,						
early crop	37427	49864	33309	40822	......	9
late crop	45274	38321	45212	49547	2	....
Total	82701	88185	78521	90369	......	4
October	32545	34141	35220	35188	......	7
November	15980	20852	20732	21047	......	24
December	10206	12757	11977	12447	......	18
Total to January 1	141432	155935	146450	159051	......	8
Total shipments	....	252562	241452	254129	......	....
Percentage of crop shipped to January 1	26.3	22.0	21.3	21.1	22	....
Percentage of total crop shipped	....	35.7	35.2	33.7	......	....
Wholesale Prices, per 180 pounds						
October	$5.34	2.14	3.22	2.47	105	....
November	6.59	1.96	3.10	2.39	166	....
December	6.78	2.02	2.88	2.45	177	......
January	7.62	2.29	3.40	2.60	176	....
February	....	2.48	3.26	2.77	......	....
March	....	2.04	3.22	3.46	......	....
April	....	1.97	3.20	3.38	......	....
May	....	2.07	3.23	3.08	......	....
June	....	2.08	3.73	2.86	......	....
Average	....	2.11	3.25	2.83	......	....

As the early crop was short, the shipments of late potatoes to September 30 were heavier than usual. Although the potato crop was 25 percent less than the average for the preceding three years, the shipments to October 30 were only 4.4 percent less. But in November and December, the shipments averaged 21 percent less.

In years when the crop is short, the supply is usually shortest toward the end of the season. Since the demand for potatoes is inelastic, a deficiency of 10 percent, in a short crop year, tends to raise the wholesale prices about 50 to 100 percent.

Up to January 1st, about one-fifth of the crop is usually shipped. This year, 26 percent of the crop has been shipped. Since such a large percentage of the crop has been shipped before January, probably the high price of potatoes has been justified.

G. P. SCOVILLE

ADJUSTING AGRICULTURE TO DEFLATION

Preliminary census reports have been issued for all but three states. The percentage changes that have occurred are shown in Table 1. In five years the number of farms has decreased 1 percent. The acreage of land in farms decreased 4 percent. These figures seem to indicate that the two census reports are comparable. It is certain that considerable land in the arid regions and in the poorer hill regions has been abandoned. Some new land has been brought into farms, particularly in Texas. The decrease in the value of farms was 26 percent.

TABLE 1.—CHANGES IN AGRICULTURE IN THE UNITED STATES AS INDICATED BY PRELIMINARY CENSUS REPORTS

	War Expansion	Deflation	Net Change
	Percentage change from 1909 to 1919	Percentage change from 1919 to 1924	Percentage change from 1909 to 1924
Number of farms	+1	—1	0
Land in farms	+9	—4	+4
Value of farms	+90	—26	+40
Number of cattle	....	—8	....
Number of hogs	....	—13	....
Number of horses and mules	....	—12	....
Corn, acres	—11	—6	—16
Corn for silage, acres	....	+19	....
Oats, acres	+8	+1	+9
Wheat, acres	+65	—30	+15
Barley, acres	—16	0	—16
Rye, acres	+250	—50	+72
Buckwheat, acres	—15	—2	—17
Potatoes, acres	—11	—9	—19
Sweet potatoes, acres	+25	—38	—22
Total acres of above crops	+13	—14	—3
Sugar beets, acres	+77	—2	+72
Hay, acres	+7	+2	+9
Tobacco, acres	+44	—17	+20
Flax, acres	+68	+175	+366
Cotton, acres	+5	+15	+21
Sorghum, acres	+48	+3	+51
Total acres all crops listed	+12	—6	+4

Livestock decreases were: cattle, 8 percent; hogs, 13; horses and mules, 12. In 1919, there were doubtless too many of each class of livestock. The rapid declines show how fast adjustment is taking place in agriculture. The number of sheep and poultry has not been published.

The data in Table 1 indicates the expansion in acreage that occurred from 1909 to 1919 and the net result of the expansion and contraction. For example, wheat increased 65 percent from 1909 to 1919 and declined 30 percent in the next five years, leaving the acreage 15 percent above that of 1909. The total acreage of grain, white potatoes, sweet potatoes, and silage increased 13 percent from 1909 to 1919, decreased 14 percent in the following 5 years and in 1924 was 3 percent below 1909.

Reports from some of the counties in Texas are not yet available, but apparently the acreage of cotton in the United States increased 15 percent from 1919 to 1924. For the two years preceding the planting of the 1924 crop, cotton sold for about double pre-war prices. The cotton acreage is being increased and the acreage of sweet potatoes, corn and oats were strikingly decreased in the southern states. Apparently southern farms are less diversified than they were. The total acreage of corn in the United States declined 6 percent. It declined somewhat in the older part of the corn-belt, but increases west and north of Iowa and Missouri, more than offset these declines. The net decline for the nation is about equal to the decline in the southern states.

During the agricultural depression, hay has been very little above pre-war prices, yet the acreage of it increased 2 percent. Land has been left in hay in order to save labor.

The tremendous adjustments that have occurred are well indicated in Table 1. Violent increases in some crops were in some cases followed by violent additional increases, and in some cases by violent decreases. Since farming is a biological industry and cannot be quickly readjusted, except at great loss, the drastic changes in acreage show the strength of the forces which have compelled farmers to change. No such violent movements can come to an equilibrium, except through further violent movements in the future.

Before the war the United States was producing considerable grain and meat for the European market. The prices that can be secured in the European market are so low compared with American wages and with the prices of products that American farmers buy, that drastic curtailment of production is occurring. The price of farm products is still so low that further curtailment will occur. Forces have been set in motion that will further reduce production for a time even if prices rise. The rate of decline as indicated by the census is much more rapid than generally has been believed. While the end of the depression is not in sight, the rapid adjustment is beginning to have an effect on prices. When the tide turns from a surplus to a shortage of food, the change may be very sudden.

CROP YIELDS PER ACRE

Crop yields per acre for the entire United States are not significant because of the amount of arid land added in recent decades, also because of the cotton boll-weevil. The yield of the staple crops, corn, oats, wheat, rye, barley, buckwheat, potatoes and hay, in states east of the Mississippi river give a good measure of changes in crop yields due to farmer's efforts. Index numbers of yields for these crops have been calculated for the states east of the Mississippi, from the yields reported by the United States Department of Agriculture.[1] (Table 1 and Figure 1.) As a result of the agricultural depression, which ended about 1897, crop yields per acre declined. Thereafter, yields rose rapidly. For the five years, 1916-20, yields per acre were 23 percent higher than for the 10 years, 1886-95.

TABLE 1.—CROP YIELDS PER ACRE IN STATES EAST OF THE MISSISSIPPI RIVER

(1866 = 100)

(Corn, wheat, oats, barley, rye, buckwheat, potatoes, hay)

Year	Index of yields per acre
1866-1875	102
1876-1885	104
1886-1895	98
1896-1905	108
1906-1915	116
1916-1920	121
1921-1925	116

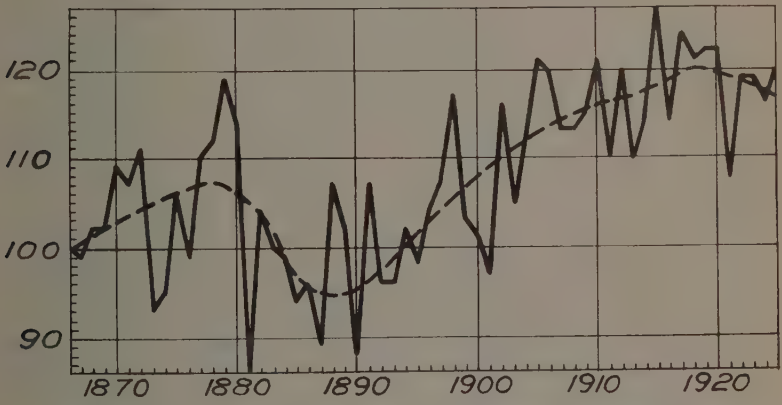

FIGURE 1.—CROP YIELDS PER ACRE EAST OF THE MISSISSIPPI RIVER

Yields declined during the agricultural depression of the eighties, and rose rapidly thereafter. Apparently they are now decreasing

The yields per acre east of the Mississippi river, for the past five years are 4 percent less than for the previous five years. It is too soon to be certain whether the decline due to economic conditions is more or less than this figure, because the weather is an important factor in crop yields.

G. F. Warren and F. A. Pearson

EFFECTS OF DEFLATION ON NEW YORK AGRICULTURE

The number of farms has decreased 2 percent and the acreage of land in farms decreased 7 percent in the five years, 1920 to 1925.

The census data for 1925 suggests some of the changes that are taking place on New York farms. Data is not available for all the vegetable crops. Every crop for which reports are given has decreased since 1920, except corn silage and hay. The total decrease from 1920 to 1925 in the combined acreage of grain crops, corn silage and potatoes, was 16 percent. Despite the fact that hay has been at pre-war prices, the acreage of hay increased one percent. The fact that the acreage of hay has been maintained, does not mean that it has been profitable. Farmers have left the land in hay to reduce losses by avoiding the labor costs of producing cultivated crops.

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[1] Warren, G. F. Crop Yields and Prices and Our Future Food Supply. Cornell University Agricultural Experiment Station Bulletin No. 341, p. 186, February, 1914.

TABLE 1.—CHANGES IN NEW YORK AGRICULTURE AS REPORTED BY THE UNITED STATES CENSUS

	1910	1920	1925	Percentage change 1920 to 1925
Number of farms	215,597	193,195	188,754	—2
Percentage of farms operated by tenants	21	19	14	—26
Acres of land in farms	22,030,000	20,633,000	19,270,000	—7
Value of farms	$1,185,000,000	$1,425,000,000	$1,368,000,000	—4
Number of horses and mules	591,000	543,000	455,000	—16
Number of dairy cows	1,343,000	1,482,000	1,373,000	—7
Total number of cattle		2,144,000	1,848,000	—14
Number of hogs		601,000	270,000	—55
Corn, acres		320,000	171,000	—47
Corn for silage, acres		329,000	360,000	+9
Oats, acres	1,303,000	938,000	884,000	—6
Wheat, acres	289,000	463,000	314,000	—32
Barley, acres	80,000	116,000	86,000	—26
Rye, acres	131,000	116,000	36,000	—69
Buckwheat, acres	286,000	218,000	218,000	0
Potato, acres	394,000	310,000	268,000	—8
Total acres of above crops		2,810,000	2,355,000	—16
Hay, acres	4,784,000	4,988,000	5,020,000	+1
Total acres of above crops		7,798,000	7,375,000	—5
Apple trees, number bearing	11,248,000	9,637,000	9,454,000	—2
Apple trees, number not bearing	2,829,000	2,932,000	2,458,000	—16
Peach trees, number	4,674,000	3,697,000	3,420,000	—7

The percentage of farms operated by tenants decreased from 19 to 14 percent. In the Northern States, tenancy represents a stepping-stone to ownership. When one-fifth to one-third of the farms, are operated by tenants it suggests a healthy state of agriculture. It indicates that young men are entering the business. If tenancy is very low it indicates that few persons choose to farm. If very high, it indicates that so long a time is required to become an owner that few persons are likely to become owners.

TABLE 2.—CROP YIELDS PER ACRE IN NEW YORK STATE
(1866 = 100)

Year	Index of yields per acre
1866-1875	99
1876-1885	95
1886-1895	91
1896-1905	99
1906-1915	103
1916-1920	114
1921-1925	111

Before the agricultural depression, crop yields per acre, in New York, were rising very rapidly. The increase in yields per acre in 30 years was 25 percent.

When crop yields for the five years preceding the census of 1910 are compared with the five years preceding the census of 1920, yields per acre increased 12 percent, which more than offset the decrease of 3 percent in acreage. During the past five years the decrease of 5 percent in acreage was accompanied by a decrease of

3 percent in yields per acre. The yields per acre will be materially increased whenever prices warrant an increase. Conditions of the last few years call for decided decreases. Milk production per cow also is increasing rapidly. Production per cow is now double the production sixty years ago.

G. F. WARREN and F. A. PEARSON

THE PERCENTAGE OF FAT IN NEW YORK STATE MILK

The question of the fat content of milk is creating a large amount of discussion among New York milk producers. Rumors of restrictive measures applying to the purchase of low-testing milk have already induced many dairymen to introduce bulls or cows of the higher-testing breeds into their herds. However, the present situation, as regards the average percentage of fat in the milk from the entire New York district, is not alarming, even to the opponents of low-testing milk. The average weighted test of milk going to the New York market is probably not far from 3.60 percent as compared with a test of approximately 3.50 percent for Chicago. In certain regions, however, the test is considerably lower, and in practically the entire dairy district the average test has been tending slowly downward. Table 1 and Figures 1, 2 and 3, show this for three distinct regions. Although the average yearly tests differ, the rate of decrease is practically the same for all.

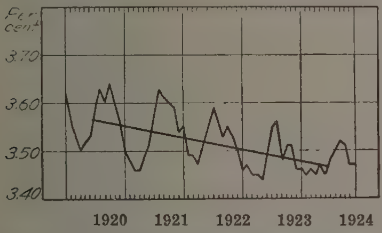

FIG. 1.—AVERAGE PERCENTAGE OF FAT IN MILK DELIVERED TO A GROUP OF SHIPPING STATIONS IN ORANGE COUNTY FROM 1920 TO 1924

The average percentage of fat has been decreasing slowly. Seasonal variations are relatively small because of the large number of fall-freshening cows in this region.

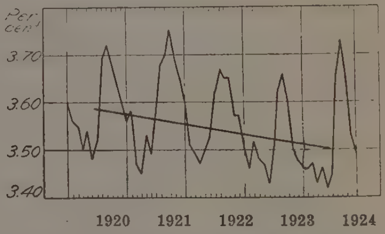

FIG 2.—AVERAGE PERCENTAGE OF FAT IN MILK DELIVERED TO A GROUP OF SHIPPING STATIONS IN THE CORTLAND VALLEY FROM 1920 TO 1924

. This region also shows a decrease in the percentage of fat. The seasonal variation is a little greater than in Orange County.

It is important to know if the downward trend will continue and to what point the test will fall. It may well be noted that the test of milk in each of the three regions is still above the average test of Holstein milk (Table 2). For a long time, the tendency of New York dairymen has been to increase the percentage of Holstein blood in their herds by breeding and selection. So long as this is continued the average test of milk may be expected to approach the average for the breed (3.40 percent). In fact, in some districts it may even fall below this point. If the price differential for higher testing milk is not sufficient to pay the cost of producing it, dairymen may select the lower testing strains of Holsteins. One plant in the Chicago district receiving milk from 137 dairies, has an average test of 3.23 percent, even though the price differential has been slightly higher than in New York, being four cents per point up or down from a 3.5 percent base, instead of from the 3.0 percent base used here. It is unlikely, however, that the test in any large region will fall below the breed average of 3.4 percent.

TABLE 1.—*AVERAGE PERCENTAGE OF FAT IN MILK DELIVERED TO COUNTRY PLANTS IN DIFFERENT REGIONS OF NEW YORK, 1920-24

Year	Orange County	Cortland Valley	St. Lawrence and Jefferson Counties
	percent	percent	percent
1920	3.57	3.58	3.66
1921	3.53	3.57	3.60
1922	3.52	3.56	3.59
1923	3.48	3.51	3.53
1924	3.47	3.50	3.58
†Average annual decrease	.050	.044	.046

*Weighted or true averages.
†From lines of secular trend.

Since the present differential of 4 cents per point is insufficient to check the downward trend in the test of milk, it is useless to expect any sporadic attempts to build up low testing herds to have much effect except among Grade A or Certified milk producers, where the additional cost* may be covered by the differential in price. There is no evidence to show whether or not consumers would prefer high or low testing milk if the retail prices were based on the relative costs of production. With milk selling at the same price, they naturally prefer the higher fat content, just as most people would prefer Certified milk if it sold at the same price as Grade B milk. However, since Grade B, Grade A and Certified milk are sold at different prices, some measure of consumer demand is obtained.

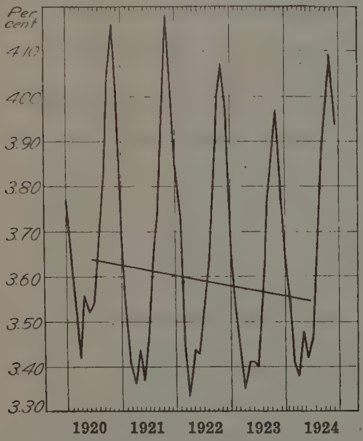

FIG. 3.—AVERAGE PERCENTAGE OF FAT IN MILK DELIVERED TO A GROUP OF SHIPPING STATIONS IN ST. LAWRENCE AND JEFFERSON COUNTIES FROM 1920 TO 1924

Although the downward trend is about the same for this region, the seasonal variation is much greater because most of the cows freshen in the spring.

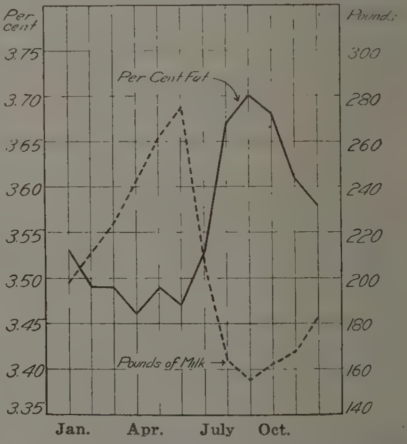

FIG. 4.—SEASONAL VARIATION IN THE FAT CONTENT AND IN THE AMOUNT OF MILK DELIVERED TO A GROUP OF SHIPPING STATIONS IN THE CORTLAND VALLEY.

FIVE-YEAR AVERAGE, 1920 TO 1924, WITH SECULAR TREND REMOVED.

As lactation advances, the production of milk decreases and the fat content increases.

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*Gaines, W. L., Feed Cost of Milk Production as Affected by the Percentage Fat Content of the Milk, Jour. of Agr. Research, 14, No. 12, p. 593, 1924.

Under a uniform retail price system, no such evidence in regard to fat content is available. Without entering into the discussion of whether or not the market wants higher testing milk, it appears obvious that the only way to get it, is to pay a higher price differential per point of fat. The present rate of 4 cents encourages the production of low testing milk.

TABLE 2.—AVERAGE PERCENTAGE OF FAT IN THE MILK OF VARIOUS BREEDS

(Advanced Registry Data)*

Breed	Number of cows	Average yearly milk yield	Average yearly fat yield	Average per cent fat
		lbs.	lbs.	
Holstein	12,110	15,334	521	3.40
Ayrshire	4,695	9,963	396	3.97
Brown Swiss	357	11,536	460	3.99
Guernsey	13,657	9,281	463	4.99
Jersey	17,548	8,047	431	5.35

*Turner, C. W., Factors Affecting the Percentage of Fat in Cows' Milk, Mo. Agr. Exp. Station Bul. 222, 1924.

The seasonal variation in the percentageof fat is far greater than the long-time changes (Table 3 and Figures 1 to 4). The range is least in regions where cows are freshened largely in the fall. Thus, Orange County shows much less variation than St. Lawrence and Jefferson counties where spring freshening cows predominate. It is obvious that the agitation for a higher percentage of fat comes in the early spring when tests are lowest. In fact, some dealers would be glad if the milk contained even less fat in the late fall and early winter because the milk for which they are paying a fat differential, sells at the same price as the lower-testing milk. This seasonal variation will decrease as the newer parts of the district become adjusted to the New York market prices. It should be noted, however, that even if the supply of milk is drawn from different regions so that the combined supply will come nearest to approximating the city demand, there would still be a seasonal range of nearly two points in the fat content. In other words, if a dealer desires 3.5 percent milk during the month of lowest fat content, he may expect milk testing approximately 3.7 per cent during the month of highest fat content. It is true that the fluctuation in a strictly winter dairy region may be less than this amount, but in such a region, production is not adjusted to demand, the shortage

TABLE 3.—SEASONAL VARIATION IN THE PERCENTAGE OF FAT IN MILK DELIVERED TO COUNTRY PLANTS IN DIFFERENT REGIONS OF NEW YORK

Five-year average, 1920-1924

Months	Orange County	Cortland Valley	St. Lawrence & Jefferson Counties
	percent	percent	percent
January	3.50	3.53	3.70
February	3.47	3.49	3.57
March	3.47	3.49	3.43
April	3.45	3.46	3.36
May	3.48	3.49	3.46
June	3.51	3.47	3.43
July	3.56	3.53	3.48
August	3.59	3.67	3.63
September	3.56	3.70	3.81
October	3.57	3.68	3.99
November	3.56	3.61	4.11
December	3.53	3.58	3.95
Average	3.51	3.54	3.59
Range	0.14	0.24	0.75

period ordinarily coming in the early autumn, with a surplus of milk in the winter. Some of the factor which might cause a dairyman's test to vary (exclusive of errors in testing) may be grouped as follows:

Factors causing higher tests	Factors causing lower tests
Addition of cows of higher testing breeds or removal of those of lower testing breeds	Addition of cows of lower testing breeds or removal of those of higher testing breeds
*Addition of low producing cows of the same breed or removal of high producing cows	*Addition of high producing cows of the same breed or removal of low producing cows
Advanced lactation	Recently freshened cows
Winter season	Summer season
Exercise	Lack of exercise
Stimulation of milk secretion accompanied by inadequate feed	Stimulation of milk secretion accompanied by adequate feed
	Starvation ration

If the agitation for higher-testing milk is renewed next spring it is well to remember that New York dairymen produce what the market wants *in so far as market demands are reflected to them through price.* Just now four cents per point for fat is interpreted by them to mean that the market wants low testing milk. If their interpretation is incorrect they can readily understand the language of prices.

H. A. Ross

SEASONAL VARIATION IN THE DEMAND FOR MILK IN NEW YORK CITY*

Variations in the demand for milk in New York City are not as great as variations in the amount produced in the contributing territory. Nevertheless, a knowledge of what consumers will want at different times and under various conditions is necessary if dairymen wish to adjust their production to market demands. The same information will also tend to narrow the margin between the prices paid by consumers and the prices paid to producers, since dealers can foretell the probable sales, and thereby decrease the amount of surplus now held in the city as insurance against shortage.

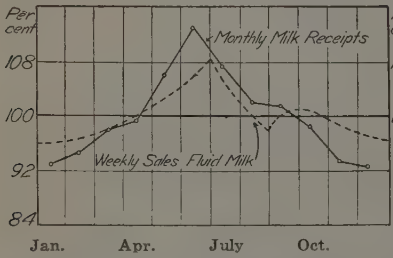

FIG. 1.—MONTHLY VARIATION IN THE RECEIPTS1 OF MILK AT NEW YORK AND WEEKLY VARIATION IN THE SALES2 OF ALL MILK.

Population movements and temperature are the two most important factors causing variations in the demand for milk.

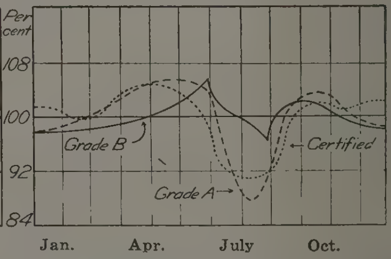

FIG. 2.—SEASONAL VARIATION IN THE SALES OF QUARTS OF BOTTLED MILK IN GREATER NEW YORK.2

The vacation decrease in demand is greater for those grades of milk consumed largely by children not of school age and by people who can well afford a vacation.

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*Gaines, W. L., and Davidson, F. A., Relation Between Percentage Fat Content and Yield of Milk, Ill. Agr. Exp. Sta., Bul 245, 1923.

*The work reported here is being carried on co-operatively by the New York State College of Agriculture and the Bureau of Agricultural Economics, United States Department of Agriculture.

[1] Monthly reecipts of milk from Norton, L. J., and Spencer, Leland. Preliminary Survey of Milk Marketing in New York. Cornell Agr. Exp. Sta. Bul. 445, p. 42, 1925. 6-year average of each month's receipts = 100 per cent.

[2] Five-year average for each week's sales = 100 percent.

The following discussion of one type of fluctuting demand (seasonal variation) is based on the weekly purchases of over one million families in Greater New York. The average purchases of these consumers during a five-year period have been reduced to a percentage basis for comparison. Long-time trends, holiday, day-of-the-week, and other variations have been eliminated. The resulting seasonal variation is caused largely by two factors; changes in temperature and movements of the people to and from the city.

The receipts of milk by months at New York City (Figure 1) give an approximation of the total demand for milk of all kinds, but they include milk for the manufacture of ice cream and such other products as are made in the city. The dotted line in the same figure portrays more accurately the total fluid milk demand, since it represents only the sales of regular milk distributors and is plotted by weeks instead of by months. It may be noted that consumption increases as the temperature rises, but before the hottest period is reached, schools close and the vacation migration causes an abrupt drop in demand. The purchases continue to fall off until about the first of September when schools reopen and the cityward movement of population increases the demand. Colder weather, however, soon sends consumption downward.

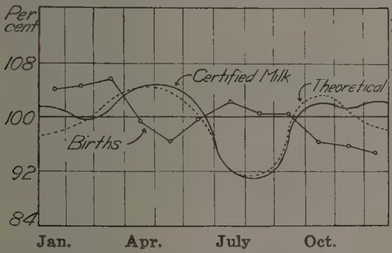

FIG. 3.—SEASONAL VARIATION IN THE NUMBER OF BIRTHS[3] AND IN THE SALES[2] OF CERTIFIED MILK IN GREATER NEW YORK.

Seasonal variation in the number of babies born in New York introduces a third factor in the seasonal variation of Certified milk.

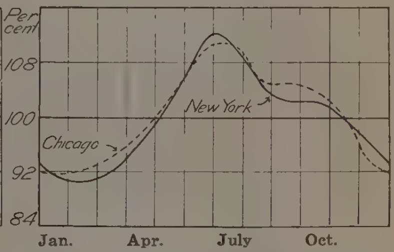

FIG. 4.—SEASONAL VARIATION IN THE RETAIL SALES OF PINTS OF BOTTLED MILK IN GREATER NEW YORK[2] AND CHICAGO.[4]

A large proportion of the pint demand is due to adults who tend to shift from milk to coffee during the winter.

A like analysis of the various grades of milk shows similar effects of these two factors (temperature and population), but with some marked differences. Thus, quarts of Grade B milk (Figure 2) show a seasonal variation similar to the one described in the case of all milk. That is, the vacation period is sharply marked by changes in the demand. Grade A milk falls off much more in the summer time and the low demand begins before schools close and lasts after they open, because a larger proportion of this grade is consumed by children not yet of school age. Certified milk, which is very largely for baby consumption, shows this to a still further degree.

There is one variation in the demand for Certified Milk caused by changes in population, which does not appear in other grades. From the middle of November to the middle of February, when cold weather would ordinarily cause a low demand, there is a rise in the amount purchased. The explanation lies in the fact that babies, as well as milk, are subject to seasonal variations in production (Figure 3). The number of births during January, February, and March is high. Hence, after the normal period of nursing, an unusually large number of babies are started on a diet of certified milk during November, December, and January, and the demand goes up. A secondary peak in the number of births comes in July, but the increase in demand, nine to ten months later, is hidden in the increase due to temperature. The dotted line in the chart represents the theoretical demand which might be expected if babies were born uniformly throughout the year.

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[2] Five-year average for each week's sales = 100 percent.
[3] Eight-year average of each week's births = 100 percent.
[4] Three-year average of each week's sales = 100 percent.

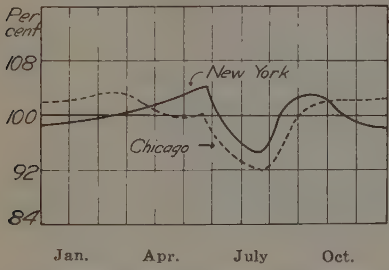

FIG. 5.—SEASONAL VARIATION IN THE RETAIL SALES OF QUARTS OF MILK IN GREATER NEW YORK[2] AND CHICAGO[4].

The vacation decrease is greater in Chicago than in New York because the former does not have summer resort districts similar to the New York beaches.

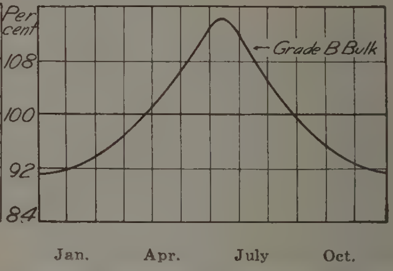

FIG. 6.—SEASONAL VARIATION IN THE WHOLESALE SALES OF GRADE B BULK MILK IN GREATER NEW YORK.[2]

Temperature is the chief factor affecting the sales of bulk milk.

A very large proportion of pints of milk is consumed by adults, particularly as a luncheon drink. Sales of pints, therefore, are much more subject to temperature changes than are quarts, because such consumers tend to shift from milk to tea or coffee, and back again with changes in the weather. Purchases during the summer run high, and the vacation period is marked by only a very small decrease (Figure 4). This chart shows also, that consuming habits are common to more than one city, since the pint demand curve is very similar for Chicago. The same is true, to a less degree, for the quart demand (Figure 5). Grade A and Grade B milk in New York have been combined for this curve because, until recently, but one grade other than Certified, was sold in Chicago. Probably the greatest difference in these two markets is the fact that many people in New York spend their vacations at nearby resorts which are served by their regular milk dealers, while the vacation regions of Wisconsin and Michigan, to which the Chicago population migrates, are outside the Chicago distributing territory.

Bulk milk (Figure 6) includes the milk sold through stores as dipped milk, and also that used by hotels, restaurants, hospitals, and the like. Since a very large part of this milk is consumed by adults, it is not surprising to find consumption running high in summer and falling low in winter.

Retail sales of heavy cream (Figure 7), reach their peak about the first of June when fresh berries are on the market, and before the vacation migration has begun. Sales at this time are over forty percent higher than they are during the lowest point in the latter part of August. With the return of vacationists, the sales of cream rise, but the berry season is past, and the high point in the autumn is seventeen percent below the spring peak. Condensed milk, shown on the same chart, is the unsweetened product sold in half pint bottles and is used in coffee by some people as a substitute for cream. Demand is therefore high in winter and low in summer, varying with the consumption of coffee.

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[2] Five-year average for each week's sales = 100 percent.
[4] Three-year average of each week's sales = 100 percent.

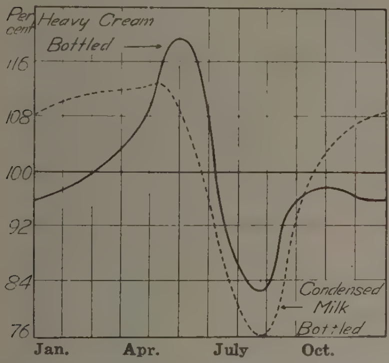

FIG. 7.—SEASONAL VARIATION IN THE RETAIL SALES OF BOTTLED HEAVY CREAM AND CONDENSED MILK IN GREATER NEW YORK[2].

Fresh berries account for the peak in cream sales, while condensed milk sales depend largely on the amount of coffee that is consumed.

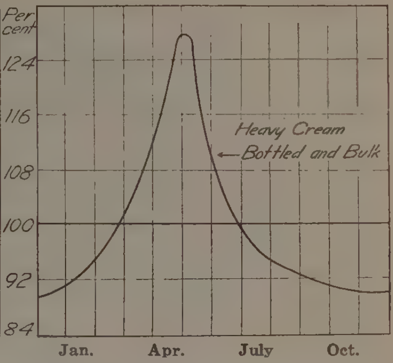

FIG. 8.—SEASONAL VARIATION IN THE WHOLESALE AND RETAIL SALES OF HEAVY CREAM IN GREATER NEW YORK.[2]

When sales of bulk and bottled cream are combined, much greater seasonal variation is obtained, and the vacation decline is completely overshadowed.

The consumption of dairy products varies widely in different sections of New York City, but this is largely the problem of the milk distributors. Milk producers are more concerned with the total demand of this great market. The foregoing charts portray accurately one phase of this demand—seasonal variations.

H. A. Ross

EFFECT OF PRICE CHANGES UPON THE RATE OF MILK PRODUCTION IN BROOME AND CHENANGO COUNTIES (New York)

In the November, 1925, issue of FARM ECONOMICS it was shown that in the New York milk-shipping area as a whole, variations from the normal rate of milk production were closely related to the variations in the purchasing power of milk two or three years earlier.

Further study indicates that there are striking differences in the quickness with which dairymen in different parts of the area increase or decrease production following increases or decreases in the price of milk[1].

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[1] Wherever the "price" of milk is mentioned in this article, the purchasing power, or price corrected for changes in the general level of prices, is meant. This is calculated by dividing the price of milk by the United States Bureau of Labor Statistics index number of wholesale prices of all commodities.

[2] Five-year average for each week's sales = 100 percent.

During the period 1910 to 1916 variations in the deliveries of milk per dairy at four country shipping stations in Broome and Chenango Counties in southern New York showed a tendency to follow only one or two months after changes in the price. During the period from 1917 to 1924 adjustments were made less promptly, increases or decreases in production tending to follow about 15 months after changes in the price of milk. Before 1917 the prices to be paid for milk for the months of October to March inclusive were posted shortly before the first of October each year, so that the dairymen were able to plan adjustments from one to several months ahead. Since 1917 farmers have not known the price received for milk until nearly one month after the milk was delivered. Moreover, milk prices have been much less stable so that dairymen apparently have hesitated to increase or decrease production until after several months of comparatively high or low prices. Variations of the price of milk and of the rate of milk production from the normal price and production are shown in Figure 1. While it is evident that the rate of milk production cannot be predicted accurately from the price, still the price that the farmers receive for milk does have an important bearing upon the production.

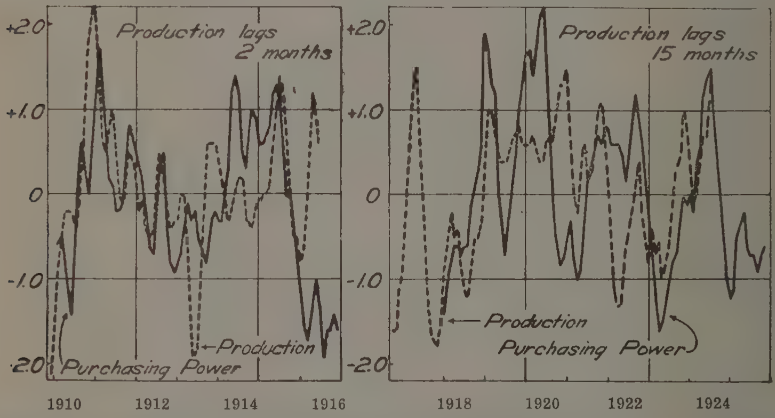

FIGURE 1.—VARIATIONS FROM THE NORMAL PURCHASING POWER OF MILK AND PRODUCTION PER DAIRY[*]

During the period 1910 to 1916 increases or decreases in the purchasing power of milk were followed promptly by corresponding changes in production.

During the period 1917 to 1924 increases and decreases in production tended to lag about 15 months behind the corresponding changes in purchasing power.

In Table 1 are shown the cofficients of correlation between variations of milk prices and production from normal. A correlation of 1.0 would indicate that the rate of milk production varies directly with the price. A correlation of 0 would indicate that the production and price are entirely unrelated and minus correlations indicate that price and production vary in opposite directions.

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[*] The standard deviations for purchasing power were: 1910 to 1916, 6.8; 1917 to 1924, 10.2. The standard deviations for production per dairy were: 1910 to 1916, 5.2; 1917 to 1924, 6.9.

The percentage deviations from normal purchasing power and production may be obtained by multiplying the scale in Figure 1 by these standard deviations.

TABLE 1.—CORRELATIONS BETWEEN VARIATIONS OF THE PURCHASING POWER OF MILK AND VARIATIONS OF THE PRODUCTION OF MILK PER DAIRY FROM THE NORMAL PURCHASING POWER AND PRODUCTION

Lag of production behind purchasing power	Correlation Coefficients	
	1910 to 1916	1917 to 1924
no lag	+.39	—.14
1 month	+.46	—.10
2 months	+.47	—.03
3 months	+.42	+.07
6 months	+.23	+.16
9 months	+.04	+.07
12 months	+.08	+.23
15 months	+.20	+.41
18 months	0	+.25
24 months	+.30	+.02
27 months	+.15	0

In the earlier period production was apparently adjusted to price changes quickly, and there was but little correlation between the price and the rate of production after the first few months until 2 years later. Probably the production was increased or decreased at first by feeding more or less grain; and later by keeping more or fewer cows. In the later period there was only a small correlation between price and production until the production was lagged 15 months. A high price for milk in February, 1926, would probably be followed by an increased rate of production about May, 1927.

Leland Spencer

DAIRY BARNS

In a study of farm buildings which is being made by the department, detail measurements and floor plans have been made for 104 barns. The data collected is summarized in Table I. Records of barns with less than 6 cows were not included in the tabulation. The most common size preferred was 36 feet wide, and long enough to house the required horses, cows and young stock. Nearly all farmers prefer to have the cows face out. Some of the reasons given for cows facing out were; more convenient to clean stables, saves expensive overhead track system, cows enter barn at one door, hay chutes can be placed at side of the barn, cows can be shown to a prospective buyer to better advantage, and side walls are kept cleaner. A few men, who do not haul manure daily but use a litter carrier, prefer the cows to face in. As concrete is used for most barn floors, it is important to have the different dimensions in proper proportion to the width of the stable, as it is expensive to make changes.

The following dimensions are most commonly preferred by dairymen. A driveway in the middle of the barn the full length of the stable 8 feet wide, with a one inch rise at the center and sloping each way to the gutter. A gutter 16 inches wide, 6 inches deep next to the driveway and 8 inches deep next to the platform, is preferred as it will hold the manure for a day. When smaller than this, one must clean the gutter twice daily if he wishes to keep the cows clean. The platform will vary in length with the breed and size of cattle kept. A very common arrangement preferred is to make the platform 5 feet at one end, tapering to 4 feet 6 inches at the other.

A one-inch raise about 15 inches back from the stanchion, commonly called a toe hold, is preferred by most dairymen as it helps to keep the cows from slipping onto their knees and also holds bedding under their front feet. A manger so constructed as to hold water is desired by most dairymen. Those dairymen who have water buckets would put them in again, but very few who now water in the manger feel that they would go to the expense to put in water buckets. Watering in the manger seems satisfactory. Some farmers prefer to give water in both ways. The width of the manger commonly preferred is 2 feet, measured from the center of the stanchion ridge, and 6 inches to 8 inches deep with rounded corners. The feed alley in front, 4 feet to 5 feet wide and on a level with the manger is preferred by most dairymen.

TABLE 1.—VARIATIONS IN DIMENSIONS FOUND IN DAIRY BARNS IN NEW YORK STATE—1924

	Number of barns	Lowest	Highest	Average	Median	Preference
Number of stanchions	73	6	100	25.4	20	
Number of stanchions when cows face out	29	14	100	36.5	32	
Number of stanchions when cows face in	14	12	44	24.4	20	
Number of stanchions with cows in one row	30	6	24	14	15	
Width of drive alley	36	6 ft.	12 ft.	8 ft. 3 in.	8 ft.	8 ft.
Width of front alley when cows face out	29	2 ft.	9 ft.	4 ft. 10 in.	5 ft.	4 ft. to 5 ft.
Width of front alley when cows face in	14	4 ft. 6 in.	12 ft.	7 ft. 8 in.	6 ft. 6 in.	6 ft.
Width of back alley when cows face in	14	3 ft.	7 ft. 6 in.	5 ft. 9 in.	5 ft.	5 ft.
Width of manger top	65	18 in.	36 in.	24.2 in.	24 in.	24 in.
Width of bottom	65	10 in.	33 in.	22 in.	20 in.	18 in.
Difference between width of manger at top and bottom	35	2 in.	21 in.	6 in.	5 in.	6 in.
Depth of manger	60	2 in.	36 in.	11.5 in.	6 in.	6 in to 8 in.
Length of platform	78	4 ft. 2 in.	5 ft. 6 in.	4 ft. 8 in.	4 ft. 8 in.	4 ft. 6 in. to 5 ft.
Width per cow	76	2 ft. 8 in.	4 ft. 4 in.	3 ft. 3 in.	3 ft. 4 in.	3 ft. 6 in.
Width of gutter	59	10 in.	21 in.	14.5 in.	14 in.	16 in.
Depth of gutter at platform	70	4 in.	14 in.	7.5 in.	8 in.	8 in.
Depth of gutter at alley	57	2 in.	8 in.	6 in.	6 in.	6 in.
Height of stable in the clear	73	6 ft.	10 ft.	7 ft. 9 in.	8 ft.	8 ft. or 8 ft. 6 in.
Concrete floor	57					Concrete
Plank floor	16					
With water buckets	21					Water buckets
Water in manger	7					
Water in trough outside	45					

Men differ on many points with regard to barn arrangement. Every barn is a problem by itself so it is hard to set up any arbitrary standards that will fit all cases. The dimensions preferred by many dairymen, given in Table I, may be helpful to others who are planning on rearranging their stables.

I. F. HALL

CREDIT EXTENDED BY CHENANGO COUNTY FEED STORES*

The preliminary report of a study of twenty-six feed stores in Chenango County for 1924, shows that book accounts and undiscounted notes receivable at the end of the year averaged $15,798.57 per store. The amounts varied from $2,971.57 for the store giving the least credit to $43,000 for the store giving the most credit. Fifteen of the stores held undiscounted notes, with an average of $2,750.70 pèr store. The average book accounts for all twenty-six was $14,211.63. Table 1 shows the distribution of the total book accounts and undiscounted notes receivable.

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*Work done in co-operation with the Bureau of Agricultural Economics of the United States Department of Agriculture.

TABLE 1.—DISTRIBUTION OF TOTAL BOOK ACCOUNTS AND UNDISCOUNTED NOTES RECEIVABLE PER STORE FOR 26 FEED STORES IN CHENANGO COUNTY.

December 31, 1924

Amount per store	Number of stores	Percent of total stores
$ 0— 4,999	2	7.6
5,000— 9,999	8	30.8
10,000—14,999	4	15.4
15,000—19,999	3	11.6
20,000—24,999	4	15.4
25,000—29,999	1	3.8
30,000—34,999	3	11.6
35,000—39,999	0	0
40,000—44,999	1	3.8
Total	26	100.0

The average total sales per store were $86,293.44, of which $64,202.32 or 74.4 percent were credit and $22,091.12 or 25.6 percent were cash sales. Table 2 shows the distribution of total sales for 1924.

TABLE 2.—DISTRIBUTION OF TOTAL SALES FOR 26 FEED STORES IN CHENANGO COUNTY—1924

Sales	Number of stores	Percent of total
$ 0 — 24,999	1	3.9
25,000— 49,999	3	11.5
50,000— 74,999	9	34.6
75,000— 99,999	5	19.2
100,000—124,999	4	15.3
125,000—149,999	1.	3.9
150,000—174,999	2	7.7
175,000—199,999	0	0
200,000—224,999	1	3.9
Total	26	100.0

The variation in ratio of credit sales to total sales is shown in Table 3. For the 26 stores the credit sales were three-fourths (74.4 percent) of the total sales. The ratio varied from 35 percent for the store giving the least credit to 95 percent for the store giving the most credit.

TABLE 3.—PERCENT CREDIT SALES WERE OF TOTAL SALES PER STORE FOR 26 FEED STORES IN CHENANGO COUNTY—1924

Percent sales credit	Number of stores in group	Percent in group
30—39	1	3.8
40—49	0	..
50—59	2	7.6
60—69	5	19.3
70—79	9	34.7
80—89	7	27.0
90—99	2	7.6
Total	26	100.0

The average credit sales per store were $64,202.32, of which 24.6 percent were on the books in accounts and undiscounted notes at the end of the year 1924. To obtain the number of day's credit sales on the books, the credit sales for the year were divided by 300. The total amount of credit in accounts and undiscounted notes was divided by the daily credit sales to obtain the number of days' credit sales on the books as of December 31, 1924. The least amount of credit extended was 25.4 times the daily credit sales, while for the greatest was 296.6 times the daily credit sales. For all stores the average was 73.8 days' credit sales.

Table 4 shows the number of days credit was extended.

TABLE 4.—NUMBER OF DAYS CREDIT SALES IN BOOK ACCOUNTS AND UNDISCOUNTED NOTES FOR 26 FEED STORES IN CHENANGO COUNTY—1924

Number of days	Number stores	Percent in group
0— 29	1	3.8
30— 59	9	34.7
60— 89	10	38.5
90—119	3	11.6
120—149	2	7.6
290—319	1	3.8
Total	26	100.0

Sixteen of the stores gave no cash discount on feed in 100-pound lots sold from the warehouse, while eleven gave no cash discount on feed sold in ton lots or more.

Tables 5 and 6 show amount of cash discount given by the feed stores.

TABLE 5.—AMOUNT OF CASH DISCOUNT GIVEN ON 100-POUND LOTS OF FEED SOLD FROM THE WAREHOUSE FOR 26 FEED STORES IN CHENANGO COUNTY—1924

Amount of cash discount per ton	Number of stores	Percent of group
none	16	61.6
$0.50	1	3.8
$1.00	3	11.6
$2.00	2	7.6
2%	3	11.6
3 1-3%	1	3.8
Total	26	100.0

TABLE 6.—AMOUNT OF CASH DISCOUNT GIVEN ON TON LOTS OR MORE SOLD FROM THE WAREHOUSE FOR 26 FEED STORES IN CHENANGO COUNTY—1924

Amount of discount per ton	Number of stores	Percent of group
none	11	42.4
$1.00	8	30.8
$3.00	2	7.6
2%	4	15.4
3 1-3%	1	3.8
Total	26	100.0

E. A. PERREGAUX

EXPRESS RATES ON EGGS*

By the express classification, second-class rates are applicable to egg shipments. However, a commodity rate, lower than the second-class rate is granted between certain points. The second-class rate in general applies to articles of food and drink. Second-class rates since February 1, 1914, are uniformly 75 percent of the first-class rates by stipulation of the Interstate Commerce Commission. Commodity rates, however, have no uniform percentage relationship to first-class rates.

TABLE 1.—COMPARISON OF FIRST-CLASS EXPRESS RATES AND COMMODITY RATES ON EGGS FROM TEN POINTS IN NEW YORK STATE TO NEW YORK CITY
(June 1, 1925)

Point of Origin	Rate per 100 pounds		Percent commodity rate is of first class rate
	First class	Commodity	
Niagara Falls	$2.45	$1.23	50
Rochester	2.25	1.23	55
Syracuse	2.05	1.16	57
Utica	2.05	1.16	57
Jamestown	2.80	1.51	54
Buffalo	2.45	1.23	50
Corning	2.25	1.16	52
Elmira	2.05	1.16	57
Binghamton	1.85	1.16	63
Hancock	1.65	.96	58
Average, 10 points	$2.19	$1.20	55

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*This study is a part of the work conducted under the American Agriculturist Fellowship.

The average for 10 shipping points, (Table 1) shows the commodity rate on eggs to be 55 percent of the first-class rate. The range is from 50 percent for the more distant points, to as high as 63 percent for points nearer New York City, the destination point used in the computation.

In 1910, there were 94 points (a) in New York State that had commodity rates on egg shipments to New York City. A comparison of the number of offices having commodity rates on eggs in 1914, and in 1925 is made in following summary:

Date	Number of points having commodity rates	Total number of offices	Percentage of Express offices having commodity rates
August 15, 1914	588 (b)	1570 (c)	37.45
June 1, 1925	560 (d)	1487 (e)	37.66
Identical points that had commodity rates on August 15, 1914 and on June 1, 1925			512
Number of points that had commodity rates on August 15, 1914, but not on June 1, 1925			76 (f)
Number of points that had commodity rates on June 1, 1925 but not on August 15, 1914			48 (g)

(a) Tariff, I. C. C. No. C355.
(b) Tariff, I. C. C. No. C1167.
(c) Tariff, I. C. C. No. A3.
(d) Tariff, I. C. C. No. 2157.
(e) Joint Directory, American Railway Express Company, March 1, 1925.
(f) Commodity rate removed, office abandoned, or name changed.
(g) Commodity rate added, new office, or name changed.

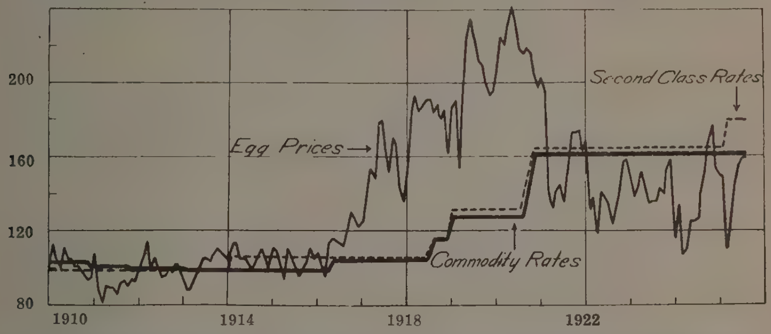

FIGURE 1.—INDEX NUMBERS OF COMMODITY AND SECOND-CLASS EXPRESS RATES FOR EGG SHIPMENTS TO NEW YORK CITY, AND INDEX NUMBERS OF PRICES PAID PRODUCERS IN NEW YORK STATE FOR EGGS. (1910-14 = 100)

Prices of eggs advanced rapidly during the World War, and express rates on eggs lagged. Since 1921 the index number of express rates on eggs has been higher generally, than the index number of egg prices.

TABLE 2.—AVERAGE COMMODITY EXPRESS RATE ON EGGS FROM 85 POINTS IN NEW YORK STATE TO NEW YORK CITY
(In cents per 100 pounds)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1910	76	76	76	76	76	76	76	76	76	76	76	75	76
1911	75	75	75	75	75	75	75	75	75	75	74	74	75
1912	74	74	74	74	74	74	74	74	74	74	74	74	74
1913	74	73	73	73	73	73	73	73	73	73	73	73	73
1914	73	73	73	73	73	73	73	73	73	73	73	73	73
1915	73	73	73	73	73	73	73	73	73	73	73	73	73
1916	73	73	73	73	77	78	78	78	78	78	78	78	76
1917	78	78	78	78	78	78	78	78	78	78	78	78	78
1918	78	78	78	78	78	78	80	86	86	86	86	86	82
1919	95	95	95	95	95	95	95	95	95	95	95	95	95
1920	95	95	95	95	95	95	95	95	108	112	120	120	102
1921	120	120	120	120	120	120	120	120	120	120	120	120	120
1922	120	120	120	120	120	120	120	120	120	120	120	120	120
1923	120	120	120	120	120	120	120	120	120	120	120	120	120
1924	120	120	120	120	120	120	120	120	120	120	120	120	120
1925	120	120	120	120	120	120	120	......	......	......	......	......	......

Commodity tariffs issued by the American Railway Express Company state that by authority of Rule 39 of the Interstate Commerce Commission Tariff Circular No. 19-A, commodity rates therein are not made applicable from or to all intermediate points, but that upon reasonable request therefor, rates which will not exceed those in effect from more distant points will under authority granted by the Commission, be established from any intermediate point upon one day's notice to the Commission and to the public.

TABLE 3.—INDEX NUMBERS OF COMMODITY EXPRESS RATES ON EGGS FROM 85 POINTS IN NEW YORK STATE TO NEW YORK CITY

Five-year average 1910-1914 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1910	103	103	103	103	103	103	103	103	103	103	103	101	103
1911	101	101	101	101	101	101	101	101	101	101	100	100	101
1912	100	100	100	100	100	100	100	100	100	100	100	100	100
1913	100	99	99	99	99	99	99	99	99	99	99	99	99
1914	99	99	99	99	99	99	99	99	99	99	99	99	99
1915	99	99	99	99	99	99	99	99	99	99	99	99	99
1916	99	99	99	99	104	105	105	105	105	105	105	105	103
1917	105	105	105	105	105	105	105	105	105	105	105	105	105
1918	105	105	105	105	105	105	108	116	116	116	116	116	111
1919	128	128	128	128	128	128	128	128	128	128	128	128	128
1920	128	128	128	128	128	128	128	128	146	151	162	162	138
1921	162	162	162	162	162	162	162	162	162	162	162	162	162
1922	162	162	162	162	162	162	162	162	162	162	162	162	162
1923	162	162	162	162	162	162	162	162	162	162	162	162	162
1924	162	162	162	162	162	162	162	162	162	162	162	162	162
1925	162	162	162	162	162	162	162	......	......	......	......	......	......

TABLE 4.—AVERAGE SECOND-CLASS EXPRESS RATE* FROM 15 POINTS IN NEW YORK STATE TO NEW YORK CITY

(In cents per 100 pounds)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1910	83	83	83	83	83	83	83	83	83	83	83	83	83
1911	83	83	83	83	83	83	83	83	83	83	83	83	83
1912	83	83	83	83	83	83	83	83	83	83	83	83	83
1913	83	83	83	83	83	83	83	83	83	83	83	83	83
1914	83	89	89	89	89	89	89	89	89	89	89	89	89
5 year aver.	83	84	84	84	84	84	84	84	84	84	84	84	84
1915	89	89	89	89	89	89	89	89	89	89	89	89	89
1916	89	89	89	89	89	89	89	89	89	89	89	89	89
1917	89	89	89	89	89	89	89	89	89	89	89	89	89
1918	89	89	89	89	89	89	94	98	98	98	98	98	93
1919	111	111	111	111	111	111	111	111	111	111	111	111	111
1920	111	111	111	111	111	111	111	111	124	133	139	139	119
1921	139	139	139	139	139	139	139	139	139	139	139	139	139
1922	139	139	139	139	139	139	139	139	139	139	139	139	139
1923	139	139	139	139	139	139	139	139	139	139	139	139	139
1924	139	139	139	139	139	139	139	139	139	139	139	139	139
1925	139	139	151	151	151	151	151	151	......	......	......	......	......

*"General Special" rates, corresponding to second-class rates were used prior to Feb. 1, 1914.

TABLE 5. INDEX NUMBERS OF SECOND-CLASS EXPRESS RATE FROM 15 POINTS IN NEW YORK STATE TO NEW YORK CITY

(5-year average 1910-1914 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1910	99	99	99	99	99	99	99	99	99	99	99	99	99
1911	99	99	99	99	99	99	99	99	99	99	99	99	99
1912	99	99	99	99	99	99	99	99	99	99	99	99	99
1913	99	99	99	99	99	99	99	99	99	99	99	99	99
1914	99	106	106	106	106	106	106	106	106	106	106	106	106
1915	106	106	106	106	106	106	106	106	106	106	106	106	106
1916	106	106	106	106	106	106	106	106	106	106	106	106	106
1917	106	106	106	106	106	106	106	106	106	106	106	106	106
1918	106	106	106	106	106	106	112	117	117	117	117	117	111
1919	132	132	132	132	132	132	132	132	132	132	132	132	132
1920	132	132	132	132	132	132	132	132	148	158	165	165	142
1921	165	165	165	165	165	165	165	165	165	165	165	165	165
1922	165	165	165	165	165	165	165	165	165	165	165	165	165
1923	165	165	165	165	165	165	165	165	165	165	165	165	165
1924	165	165	165	165	165	165	165	165	165	165	165	165	165
1925	165	165	180	180	180	180	180	180	......	......	......	......	......

Those who ship eggs to important egg-receiving centers may ascertain upon inquiry at their local express office whether a commodity rate is in effect between points in which they are interested. Section 36 of the Public Service Commission Law states that "It shall be unlawful for any common carrier subject to the provisions of this chapter to charge or receive any greater compensation in the aggregate for the transportation . . . of property, for a shorter than for a longer distance over the same line or route in the same direction, the shorter being included within the longer distance." The Long-and-Short-Haul Section of the Public Service Commission Law provides for intra-state traffic in a similar manner as Section 4, the Long-and-Short-Haul Clause of the Federal Act to Regulate Commerce, provides for interstate traffic.

The index number for commodity express rates on egg shipments to New York City for August, 1925, was 162, Table III. Second-class rates, which stood at 165 from November, 1920, were advanced March 1, 1925, to 180, Table V. The index number of egg prices for August, 1925, was 160.*

F. F. LININGER

FIRST-CLASS EXPRESS RATES‡

By Official Express Classification No. 29, of the American Railway Express Company and allied companies, "First Class rates are applicable to all property received for transportation by the companies party to this classification unless otherwise hereinafter provided."

The property which is "otherwise hereinafter provided" with rates other than First-Class, is generally speaking:

(1) Commodities taking Second-Class Rates, largely articles of food and drink.

(2) Articles that have commodity rates, such as eggs, dressed poultry, cream, fruit, berries, dressed calves, and the like.

(3) A relatively unimportant group such as small packages which take the Third-Class Rate. (a) All property not classified takes the First-Class Rate. The Classification therefore, is a "clas-

TABLE 1.—FIRST-CLASS EXPRESS RATES BETWEEN 15 POINTS IN NEW YORK STATE AND NEW YORK CITY

(cents per 100 lbs.)

Interstate Commerce Commission	508	386	2	561	1400	1411	2654
Date Effective	11-1-09	2-1-14	7-15-18	1-1-19	9-1-20	10-13-20	3-1-25
Niagara Falls	125	140	154	170	191	214	245
Lockport	125	140	154	170	191	214	245
Rochester	115	130	143	159	179	200	225
Syracuse	100	120	132	148	167	186	205
Utica	100	120	132	148	167	186	205
Herkimer	100	120	132	148	167	186	205
Jamestown	150	170	187	203	228	256	280
Buffalo	125	140	154	170	191	214	245
Corning	100	130	143	159	179	200	225
Elmira	100	120	132	148	167	186	205
Binghamton	90	115	126	143	161	180	185
Cooperstown	100	100	110	126	142	159	165
Hancock	90	100	110	126	142	159	165
Middletown	60	75	82	99	111	125	115
Poughkeepsie	60	60	66	82	92	103	105
Average	103	119	130	147	165	185	201

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*Index numbers of egg prices from *Farm Economics*.

‡This study is a part of the work conducted under the American Agriculturist Fellowship.

(a) "Third-class rates are applicable to commodities herein classified as third-class and are 1 cent for each 2 ounces or fraction thereof, minimum charge 15 cents, but the charge at third-class rates must not be more than the charge at first-class rates." "The true value must not exceed $10."

Official Express Classification, No. 29. Effective October 10, 1924.

sification exception sheet," which contains a list of those commodities that are exceptions to this rule. There are also included some commodities to which first-class rates are applied, but in such cases it is on account of packing requirements or some special condition due to the nature of the commodity.

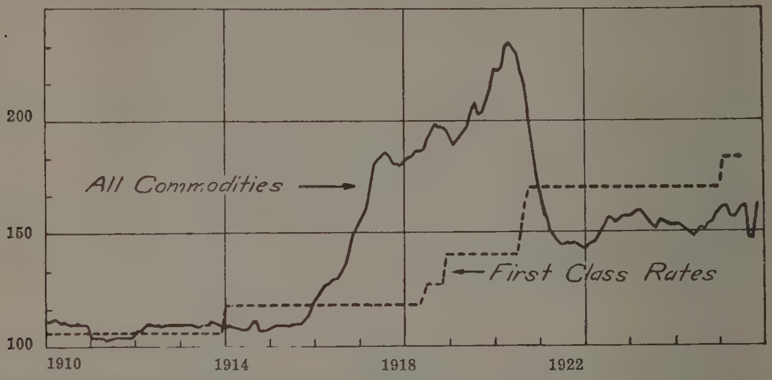

FIGURE 1.—INDEX NUMBERS OF FIRST-CLASS EXPRESS RATES AND INDEX NUMBERS OF THE GENERAL PRICE LEVEL

TABLE 2.—AVERAGE FIRST-CLASS EXPRESS RATES BETWEEN 15 POINTS IN NEW YORK STATE AND NEW YORK CITY

(In cents per 100 lbs.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1910	103	103	103	103	103	103	103	103	103	103	103	103	103
1911	103	103	103	103	103	103	103	103	103	103	103	103	103
1912	103	103	103	103	103	103	103	103	103	103	103	103	103
1913	103	103	103	103	103	103	103	103	103	103	103	103	103
1914	103	119	119	119	119	119	119	119	119	119	119	119	118
5 year aver.	103	106	106	106	106	106	106	106	106	106	106	106	106
1915	119	119	119	119	119	119	119	119	119	119	119	119	119
1916	119	119	119	119	119	119	119	119	119	119	119	119	119
1917	119	119	119	119	119	119	119	119	119	119	119	119	119
1918	119	119	119	119	119	119	125	130	130	130	130	130	124
1919	147	147	147	147	147	147	147	147	147	147	147	147	147
1920	147	147	147	147	147	147	147	147	165	177	185	185	158
1921	185	185	185	185	185	185	185	185	185	185	185	185	185
1922	185	185	185	185	185	185	185	185	185	185	185	185	185
1923	185	185	185	185	185	185	185	185	185	185	185	185	185
1924	185	185	185	185	185	185	185	185	185	185	185	185	185
1925	185	185	201	201	201	201	201	201	------	------	------	------	------

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In the preparation of Table II, the merchandise rate was used prior to February 1, 1914. This rate is analogous to the first-class rate.

On February 1, 1914, the new block system for the determination of express rates as prescribed by the Interstate Commerce Commission, became effective. Under the new regulations there were three classes of shipments:

First-Class, formerly known as Merchandise.
Second-Class, formerly known as General Specials.
Third-Class, formerly known as Section D.

In addition to rates on each of these three classes, there may be special rates, called commodity rates with no prescribed relationship to other rates, but based upon what the traffic will bear.

Repairs for farm machinery, furniture, linoleum mats, or rugs, and wall paper, are examples of shipments to which first-class rates apply.

For shipments of less than one hundred pounds, a graduated scale of charges is applicable, making a somewhat higher rate per pound. That is, a fifty-pound shipment costs somewhat more than half the cost of a hundred-pound shipment.

TABLE 3.—INDEX NUMBERS OF FIRST-CLASS EXPRESS RATES BETWEEN 15 POINTS IN NEW YORK STATE AND NEW YORK CITY

(5 year average 1910-14 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1910	97	97	97	97	97	97	97	97	97	97	97	97	97
1911	97	97	97	97	97	97	97	97	97	97	97	97	97
1912	97	97	97	97	97	97	97	97	97	97	97	97	97
1913	97	97	97	97	97	97	97	97	97	97	97	97	97
1914	97	112	112	112	112	112	112	112	112	112	112	112	111
1915	112	112	112	112	112	112	112	112	112	112	112	112	112
1916	112	112	112	112	112	112	112	112	112	112	112	112	112
1917	112	112	112	112	112	112	112	112	112	112	112	112	112
1918	112	112	112	112	112	112	118	123	123	123	123	123	117
1919	139	139	139	139	139	139	139	139	139	139	139	139	139
1920	139	139	139	139	139	139	139	139	156	167	175	175	149
1921	175	175	175	175	175	175	175	175	175	175	175	175	175
1922	175	175	175	175	175	175	175	175	175	175	175	175	175
1923	175	175	175	175	175	175	175	175	175	175	175	175	175
1924	175	175	175	175	175	175	175	175	175	175	175	175	175
1925	175	175	190	190	190	190	190	190	......	......	......	......	——

First-class Express rates were lower than the general price level until the early part of 1921. Since then, first-class express rates have been higher than commodity prices. For December, 1925, first-class rates were 90 per cent above the pre-war level, whereas wholesale price of all commodities, as reported by the U. S. Bureau of Labor Statistics, were 62 percent above the five-year average; and prices paid to farmers in New York averaged 59 percent above the five-year pre-war average.

The averages of first-class express rates between 15 points in New York State and New York City are shown in Table I. The monthly average rate in cents per 100 pounds, 1910-1925, is shown in Table II. The monthly rates in Table II were converted into index numbers which are given in Table III. F. F. LININGER

PROPORTION OF NET INCOME TAKEN BY TAXES ON DAIRY FARMS

For the crop year 1921, the proportion of the net income on dairy farms in New York required to pay the town, county, state and school taxes ranged from 7.0 percent for farms producing Grade A milk and cultivated cash crops to 18.8 percent for straight dairy farms producing milk for a condensery. Taxes averaged from 1.4 percent to 2.0 percent of the value placed on the real estate; or from 80 cents to $1.27 per acre of land farmed.

TABLE 1.—PROPORTION OF NET INCOME TAKEN BY TAXES ON DAIRY FARMS—CROP YEAR, 1921

	Type of dairying					
	Condensery milk	Grade A milk		Grade B milk		
	without cash crops	Without cash crops	With cash crops	With alfalfa roughage	With mixed hay roughage	Cheese factory milk
Reported in Cornell Univ. Agr. Exp. Sta. Bul.	421	433	433	438	441	442
Number of farms	83	84	51	125	121	67
Acres per farm	180	194	168	141	167	203
Value of real estate	$9,207	$8,887	$13,681	$11,030	$11,059	$10,691
Value of land per acre	$51	$46	$81	$78	$66	$53
Taxes—Town, County, State, and school	$161	$180	$185	$166	$212	$163
Taxes per acre of land	$0.89	$0.93	$1.10	$1.18	$1.27	$0.80
Taxes in percent of real estate value	1.7	2.0	1.4	1.5	1.9	1.5
Gross cash income	$3,157	$4,161	$7,018	$4,278	$5,082	$2,002
Cash business expenses except taxes and interest	$2,301	$2,802	$4,380	$2,726	$3,450	$1,095
Net income for payment of interest, taxes, and labor of operator and his family	$856	$1,359	$2,638	$1,552	$1,632	$907
Percent which taxes are of net income	18.8	13.2	7.0	10.7	13.0	18.0

TABLE 2.—PROPORTION OF NET INCOME TAKEN BY TAXES ON DAIRY FARMS IN THE VICINITY OF EARLVILLE, CHENANGO COUNTY, THREE CONSECUTIVE YEARS

Crop year	1921	1922	1923
Number of farms	121	88	95
Acres per farm	167	151	163
Value of real estate	$11,059	$10,818	$10,476
Value of land per acre	$66	$72	$64
Taxes, town, county, state and school	$212	$192	$204
Total taxes in percent of real estate value	1.9	1.8	1.9
Taxes per acre of land	$1.27	$1.27	$1.25
Gross cash income	$5,082	$4,550	$5,247
Cash business expenses except taxes and interest	$3,450	$3,267	$3,647
Net income for payment of interest, taxes, and labor of operator and his family	$1,632	$1,283	$1,600
Percent which taxes are of net income	13.0	15.0	12.8

The share of the net income taken by taxes in a good dairy region of New York for three consecutive years is shown in Table 2. Of the farms there reported, 76 furnished records for three years. Taxes have remained constant per farm and per acre, but represented a higher percent of the net income in 1922, because this year was less favorable to farmers.

E. G. MISNER

FORTY YEARS OF ADJUSTMENTS IN FARM LANDS IN NEW YORK STATE

The largest acreage of New York State lands ever in farms, was in 1880. In that year there were 52,304 more farms in the state than in 1925.

The expansion from 1850 to 1880 had been very rapid. During 30 years, 4,661,670 acres of lands had been brought into farms, the number of which had increased by 70,437, In the last 45 years the number of farms declined 22 percent and the land in farms declined 19 percent.

Table I.—Changes in the Number of Farms and the Acreage in Farms in New York State—1880 to 1924

Year	Number of farms	Total land in farms, acres	Average size of farms, acres
1850	170,621	19,119,084	112.1
1860	196,990	20,974,958	106.5
1870	216,253	22,190,810	102.6
1880	241,058	23,780,754	98.7
1900	226,720	22,648,109	99.9
1910	215,597	22,030,367	102.2
1920	193,195	20,632,803	106.8
1925*	188,754	19,270,259	102.1
Percentage decrease in 45 years	22	19	

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*Preliminary figures.

WM. ALLEN

OPPORTUNITIES FOR FARM BOYS IN AGRICULTURE

Since the World War, there has been a decrease of over 25 per cent in the enrollment of students in the agricultural colleges of the northern section of the United States. The agricultural depression is the important reason for the decrease. In the New York State College of Agriculture, 55 percent of the men registered in 1919 had come with the aim of preparing themselves for farming. Since then, the prevailing attitude toward farming has discouraged many young men of college entrance age from wanting to become farmers.

A study of the occupations being following by the farm-reared graduates, from the New York State College of Agriculture, at three different periods, gives some idea of the opportunities available for these men. The following table is based on all the known occupations of farm-reared graduates, for three periods, and includes from 85 to 90 percent of all individuals in each case. It shows the percentage of men in each period in the five classifications of occupations.

TABLE 1.—PRESENT OCCUPATIONS OF FARM-REARED MEN GRADUATING FROM THE NEW YORK STATE COLLEGE OF AGRICULTURE DURING 1910-1914, 1917-1921, 1922 1925.

Occupations	Percent of total during 1910-1914	1917-1921	1922-1925
FARMING—farm owners; renters; managers; and hired men	39.3	36.2	34.4
AGRICULTURAL BUSINESS—buying or selling agricultural supplies and products; nurserymen; florists; farmers' cooperatives; manufacturing and preserving agricultural products; agricultural journalism and advertising; etc.	9.0	12.1	16.4
AGRICULTURAL TECHNICIANS—bacteriologists; entomologists; chemists; foresters; landscape architects; veterinarians; naturalists; etc., for commercial concerns or in private business	4.5	3.0	2.4
AGRICULTURAL TEACHING, RESEARCH, AND EXTENSION—agricultural college and secondary school teachers; experiment station and United States Department of Agriculture workers; county agents; county club agents; etc.	37.1	33.6	35.9
NON-AGRICULTURAL WORK—all professional and non-professional men not engaged in work directly connected with some phase of agriculture	10.1	15.1	10.9
Total	100.0	100.0	100.0

The three periods represent quite different conditions and opportunities for farmers. The period, 1910-1914, is the five years immediately preceding the war and was relatively prosperous. The period 1922-1925, includes four years of severe agricultural depression.

Economic or other conditions in these three periods seem to have had little influence on the relative proportion of farm-reared graduates finding opportunities in agricultural work. Practically 90 percent of farm-reared men graduating during the period 1910-1914, and during the last four years have located in the field of agriculture. Although the years immediately following the war offered unusual opportunities in other industries as compared with agriculture, 85 percent of those graduated during the period 1917-1921 have gone into agricultural work. It is a significant fact that in these three periods there is so little change in the proportion of farm-reared graduates who have found employment in agricultural work. In spite of the agricultural depression, the usual proportion of these graduates have gone into farming. Evidently they have figured on the long time situation in farming and elected to stay on the land.

The proportion of graduates going into the occupations classified as agricultural business shows marked increase. During the period 1922-1925, the percentage finding opportunities in agricultural business was almost double that in the period 1910-1914. Many city concerns dealing in commodities that the farmers buy or sell realize the value of having representatives with farm background, who can better understand and appreciate the farmer's needs and problems. This is a requirement often mentioned by prospective employers of men for jobs in agricultural business. It is just as important for agriculture to have farm-reared and college trained men in the channels of trade, handling farm produce, as it is to have them on farms. For this reason the State of New York has appropriated funds, not only to prepare men for farming; but has provided courses of instruction in marketing and agricultural business, to prepare men for such occupations. This opens a new field of opportunity for farm-reared boys who wish to make use of their agricultural knowledge in business occupations. Since such courses are offered, the proportion of graduates who will enter these occupations will doubtless increase.

The proportion of farm-reared men who find positions in the various branches of agricultural teaching, research and extension work remains practically constant. About the same number go into this work as go into farming and together the two types of work have consistently claimed about three-fourths of the farm-reared graduates.

The occupations followed by farm-reared graduates suggest to the farm boy of college entrance age that there is probably a place for him in agriculture if he cares to prepare for it. Conditions in farming have been as bad in recent years as they are likely to be. Even during these lean years about 90 percent of the farm-reared graduates have found places for themselves in agriculture, which indicates that as many will be able to do so in the future.

The scholastic work of farm boys in the college of agriculture has always compared very favorably with that of other students, and quite naturally, in the more applied courses they have excelled.

Young men with good farm experience are becoming less numerous, for fewer people are living on farms. Since there is apparently a demand for this qualification, combined with other desirable characteristics and training, it would seem wise for farmers' sons to consider the value of this asset, when the time comes for them to choose a vocation. Those who can satisfy college entrance requirements should carefully consider the probabilities of an agricultural college education, as one means of helping them to realize more fully on the value of their farm background. If this opportunity for a particular individual does not lie in farming itself, it may lie in some other branch of the broad field of agriculture.

A. W. Gibson

FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 32 March 10, 1926

BUSINESS CONDITIONS

Year	Farm Prices New York[1]	Farm Prices United States[1]	Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
1913	97	99	102	96	113	111	....
1914	103	101	100	96	98	81	....
1915	100	101	103	119	74	101	101
1916	116	119	130	152	70	130	114
1917	170	180	181	140	92	124	129
1918	186	206	198	130	110	121	160
1919	206	215	210	160	102	94	185
1920	217	214	231	144	137	109	222
1921	144	119	150	118	125	48	203
1922	134	124	152	146	86	77	197
1923	142	137	157	155	95	112	214
1924	128	140	153	166	77	85	218
1925	148	154	162	221	77	97	223
Sept., 1924	129	137	152	170	53	68	221
October	127	145	155	169	53	77	217
November	134	145	156	178	58	83	218
December	135	147	160	190	67	96	223
Jan., 1925	136	154	163	201	77	110	223
February	136	153	164	203	80	111	220
March	136	157	164	200	82	109	224
April	141	152	159	201	83	102	218
May	150	151	158	209	82	91	221
June	157	153	161	214	81	87	220
July	150	156	163	222	75	88	220
August	156	160	164	228	70	88	222
September	148	152	163	236	69	89	223
October	147	151	161	243	72	92	225
November	165	153	161	248	75	97	226
December	159	152	159	250	80	103	229
Jan., 1926	162	150	159	252	89	106	229
February	....	150	161	255	90	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to [illegible]10-14 base by multiplying by 2.05.

[4] Data furnished by the Harvard Economic Ser[illegible]ted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor [illegible] New York State, June 1914 = 100.

BUSINESS CONDITIONS

Interest rates have continued to rise, although they are still below the pre-war level. The change from an index of 69 in September, to 90 in February is very decided. Sixteen months ago the index number of interest rates on 4-6 month commercial paper stood at 53 as compared with 90 for February. The effects have been slow but are now evident in speculative markets. A very decided reaction occurred during the latter part of February. The price of May futures for wheat declined from $1.79 to $1.56 per bushel. March future prices for cotton declined from 20.50 to 18.83 cents per pound. The average of 70 industrial stocks fell from a peak of 261 on February 14, to 238 on March 2.

Business activity continues at a high level, but a decline in city activity is likely to occur.

FARM PRICES

Prices paid to producers in the United States for cotton, sweet potatoes, horses, chickens, butter, milk cows, beef cattle, veal calves, and hogs were higher in February than in January. Corn, oats, wheat, barley, buckwheat, flaxseed, beans, hay, potatoes, apples, eggs, lambs, and wool fell in price.

In New York State, one of the striking changes is the improvement in the dairy industry. The severe curtailment in the number of heifers raised is resulting in a shortage of cows, better prices for milk, and a consequent increase in the value of cows. In February, cows were on the average, 55 percent above pre-war prices. They are still below the general price level, but if they rise in price much more they will be sufficiently high to stimulate the raising of heifer calves in considerable numbers.

The price of eggs has declined strikingly. The average farm price in New York State is only 19 percent above prewar.

G. F. WARREN and F. A. PEARSON

THE PURE-BRED HOLSTEIN SITUATION

Prices for Holsteins in the United States

The average price received per head for Holstein cattle as furnished by the Secretary's office of the Holstein-Friesian Association of America is given in Table 1.

TABLE 1.—PUBLIC SALE AVERAGES—HOLSTEIN CATTLE

Year	No. of animals reported	Total receipts	Average price per head
1904	404	$60,925	$155
1905	593	69,239	117
1906	422	75,412	178
1907	500	90,775	182
1908	803	120,919	150
1909	2,106	329,888	156
1910	2,072	381,218	184
1911	3,346	685,918	205
1912	4,170	814,970	195
1913	4,529	1,115,009	246
1914	5,832	1,534,806	263
1915	6,441	1,592,203	247
1916	12,730	2,474,843	194
1917	12,728	3,136,544	246
1918	14,537	3,754,604	258
1919	18,205	5,552,525	305
1920	18,836	7,010,214	372
1921	12,961	3,554,068	274
1922	9,301	1,892,084	203
1923	9,036	1,536,045	170
1924	8,385	1,326,790	158
1925 to Oct. 1st	4,821	755,267	115

The highest average price was received in 1920 when 18,836 purebred Holsteins sold for over seven million dollars, an average of $372 per head. Since then the price has declined very sharply. The average for all sales in 1925 up to October 1st was only $115 per head—less than one-third the average price received in 1920. The demoralized market for purebred Holsteins has resulted in financial hardship for many breeders. Probably in no time in the history of this breed of cattle could the purebred business be entered so cheaply as in 1925.

Advanced Registry Testing in New York State

The amount of money paid by owners of purebred cattle in New York State for advanced registry testing each year, for thirteen years from 1912 to 1924, inclusive, is shown in Table 2. This includes the wages paid to the supervisor, his travelling expenses, and the cost of supervising this work by the Department of Animal Husbandry of the New York State College of Agriculture. It does not include other additional costs which come to the breeder from testing, such as acids, board and washing for supervisor, costs of fitting animals and so on.

TABLE 2.—AMOUNT PAID BY FARMERS IN NEW YORK FOR ADVANCED REGISTRY TESTING* FOR THE YEAR ENDING JUNE 30

Year	Amount
1912-13	$33,987
1913-14	48,006
1914-15	66,416
1915-16	60,263
1916-17	57,676
1917-18	45,461
1918-19	52,594
1919-20	69,973
1920-21	77,517
1921-22	70,110
1922-23	43,855
1923-24	31,261
1924-25	27,440

*From reports of the Treasurer of Cornell University, and the Business Office of the College of Agriculture.

No cow testing associations were, of course, included in this amount. The amounts indicated in Table 2 cannot be taken to represent the number of days of official testing charged to farmers nor the number of records completed. This information is not available in summarized form.

From 1912 to 1919 the amount spent for testing practically doubled. The largest amount of work was done in the fall of 1920 and the spring of 1921. During the past three years there has been done less official testing of purebred animals in New York State than there was twelve years ago. The real explanation for this is, of course, that the demand for purebred cattle has almost ceased and this, with the greater burden upon the owners of increased taxes, high wages, and other high operating expenses, has resulted in the adoption of a very conservative policy.

The relation of the amount spent for Advanced Registry testing to the prices received for cattle is shown in Figure 1. After prices have advanced for a time more money is spent for testing, and the curtailment in this expense does not take place until after prices have fallen. If animals must be sold at present low prices, Advanced Registry testing probably would not pay. Thus, it is to be ex-

(Continued on page 420)

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.8	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917*	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	26.8	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1925												
February	114.5	53.4	169.8	84.8	112.2	275.3	4.27	23.0	12.83	194	72.3	160.2
March	112.1	49.7	164.0	81.5	112.4	267.8	3.91	24.5	12.39	189	71.4	180.8
April	103.8	44.7	140.5	76.1	104.1	244.7	3.84	23.7	12.84	202	70.5	196.2
May	107.5	45.4	149.1	75.9	113.3	251.8	3.91	23.0	12.17	251	70.6	189.1
June	111.0	48.3	152.7	76.4	112.3	246.8	4.28	23.0	11.82	280	84.4	170.2
July	104.4	45.3	140.3	73.5	115.7	227.6	3.98	22.3	12.48	290	125.5	188.7
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	5.43	17.2	13.31	......	220.5	149.8
February	68.5	39.2	155.5	56.3	80.9	216.4	5.81	17.7	12.93	......	226.0	162.4

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1925												
February	192	135	190	133	158	161	192	189	107	172	110	192
March	185	124	184	130	159	154	179	198	103	159	107	207
April	167	110	158	118	144	141	175	191	103	159	104	211
May	166	110	166	117	155	143	172	183	100	193	101	193
June	164	116	168	118	148	141	185	181	96	222	122	177
July	151	109	161	120	146	136	173	176	104	238	169	206
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	190
October	118	95	156	96	120	137	163	178	107	189	182	193
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January	120	104	181	97	121	139	241	140	113	......	352	190
February	115	99	174	88	114	127	262	145	108	......	344	195

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*August, 1909 to July 1914 = 100.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
February	151	78	19.1	35.7	38.7	54.79	5.69	8.87	8.41	13.13	43.2	9.62
March	155	81	20.0	23.9	39.5	56.19	6.18	9.21	8.20	13.48	43.0	11.83
April	158	88	21.1	24.2	39.7	56.85	6.55	8.80	8.42	12.22	40.8	11.64
May	179	82	22.0	24.8	39.5	57.88	6.48	8.35	7.53	11.99	36.9	10.78
June	201	81	21.6	26.1	38.2	57.79	6.46	8.18	7.04	11.62	35.7	10.82
July	159	81	21.4	27.9	39.2	57.95	6.55	8.65	7.17	11.71	39.4	12.02
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.8	11.76

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	108	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
February	147	55	175	136	142	115	111	131	185	221	234	135
March	143	56	179	111	153	115	117	133	171	217	230	160
April	138	57	183	142	156	115	119	130	166	189	227	154
May	146	57	186	149	160	117	118	127	152	186	207	149
June	164	56	183	156	163	116	119	121	148	184	204	151
July	155	57	180	167	171	118	123	128	157	192	225	166
August	166	57	173	174	169	118	123	128	166	208	214	163
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	153
December	178	54	181	160	163	121	118	138	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Onions	Pota-toes	Apples	Cabbage
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	bu.	cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	75	2.28	15.42	105	69	103	1.03
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.35
1925	123	57	164	89	104	4.13	12.95	184	107	126	2.46
1925											
February	136	66	188	101	110	4.40	13.40	152	61	125	2.00
March	143	61	185	96	121	4.40	12.60	156	55	130	1.78
April	128	60	156	92	104	3.90	12.40	172	49	133	1.60
May	129	59	168	97	109	4.20	12.00	200	48	150	3.60
June	134	60	178	97	106	3.75	12.00	259	50	162	2.70
July	126	59	163	91	122	4.00	12.30	290	86	126	4.30
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85
December	95	50	160	75	87	4.50	14.30	157	218	120	2.47
1926											
January	94	51	169	77	88	6.10	14.30	......	244	136	......
February	95	50	173	76	87	6.30	13.90	......	245	128	......

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Pota-toes	Apples	Cab-bage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
1925	165	117	166	116	139	173	84	188	155	155	257
1925											
February	192	140	188	135	153	188	88	171	88	144	230
March	201	130	185	125	170	190	81	144	81	144	163
April	180	122	156	119	142	171	80	164	71	129	155
May	177	118	168	123	145	179	76	180	67	133	308
June	179	118	175	121	138	160	74	204	71	165	211
July	166	116	161	117	145	165	77	221	125	143	172
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385
December	127	106	163	100	121	185	94	191	341	162	380
1926											
January	131	113	171	103	124	261	94	......	381	168	......
February	134	106	173	101	121	272	91	......	355	147	......

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	120	25.1	43	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1925												
February	115	24.0	48	45	2.55	68.00	11.50	5.70	7.00	13.60	51	10.50
March	114	25.1	31	45	2.51	69.10	11.50	5.50	6.50	14.00	48	11.30
April	118	25.4	28	46	2.39	73.00	10.90	6.00	6.20	13.40	44	12.60
May	124	26.6	28	46	2.14	77.30	9.70	6.30	5.90	12.40	40	11.90
June	133	26.1	31	45	2.05	77.00	10.10	5.90	6.20	12.60	38	12.10
July	128	26.9	35	46	2.10	80.70	10.60	6.40	6.10	12.50	43	12.30
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	115	23.5	61	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	117	25.6	46	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	127	26.9	38	49	......	84.10	12.20	6.40	6.50	12.80	48	12.00

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hog
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	98
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	73	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
1925	68	170	152	156	156	137	136	108	149	202	211	154
1925												
February	66	171	150	136	140	125	137	108	166	213	232	140
March	65	177	111	145	149	124	138	106	152	217	229	146
April	65	172	133	153	163	129	141	112	136	196	210	161
May	70	179	147	159	180	139	132	112	137	190	200	157
June	74	172	155	161	192	135	128	107	146	190	190	164
July	73	177	159	170	167	143	130	117	147	190	205	164
August	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159
December	65	170	149	156	140	145	139	108	147	209	210	163
1926												
January	68	188	121	150	145	154	143	112	141	199	195	157
February	73	192	119	148	......	155	146	121	154	200	218	160

[1] Net pool price of 8.7% milk at Utica, N. Y.

(Continued from page 415)

pected that the amount spent for testing now would be less than it has been for 13 years.

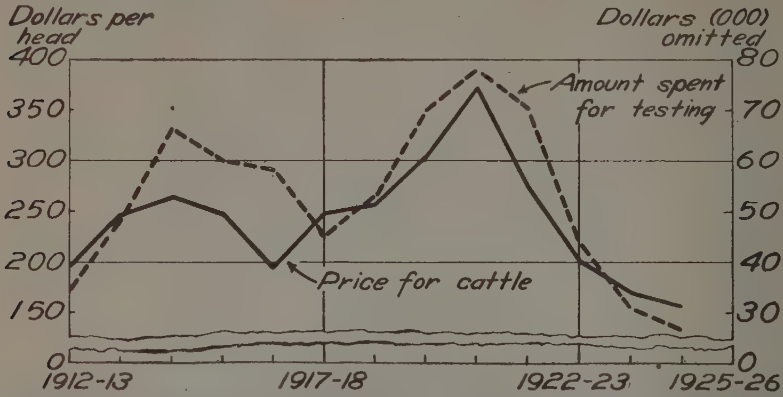

FIGURE 1.—AVERAGE PRICES PER HEAD RECEIVED FOR PURE BRED HOLSTEIN CATTLE AND AMOUNT PAID BY NEW YORK FARMERS FOR OFFICIAL TESTERS FOR ADVANCED REGISTRY WORK. THE OFFICIAL TESTING YEAR ENDS ON JUNE 30TH. THE AMOUNT SPENT FOR THE YEAR 1912-13 IS PLOTTED AS FOR 1912.
The two peaks in prices were six years apart.

Labor Incomes on Farms With Purebred Holstein Cattle

The average labor incomes for three consecutive years on farms in the vicinity of Earlville, Chenango County, with herds of registered Holsteins, and on farms with herds of grade Holsteins are shown in Table 3.

TABLE 3.—LABOR INCOMES ON FARMS WITH REGISTERED HOLSTEIN HERDS AND ON FARMS WITH GRADE HERDS IN THE VICINITY OF EARLVILLE, CHENANGO COUNTY, FOR THREE CONSECUTIVE YEARS

Year	Farms with registered herds		Farms with grade herds	
	Number of farms	Average labor income	Number of farms	Average labor income
1921	18	+$462	85	+$299
1922	17	—94	58	+123
1923	19	—37	64	+41

It is here shown for the crop year 1921, the owners of purebred herds made higher labor incomes than owners of grade herds. If the information were available for the years when cattle prices were at their peak, the difference in favor of purebred herds would be greater. But, in 1922 and 1923 the owners of purebred herds received less for their time than did owners of grade herds.

TABLE 4.—INDEX NUMBERS OF PRICES RECEIVED FOR REGISTERED HOLSTEINS IN THE UNITED STATES, MONEY SPENT FOR A. R. O. TESTING IN NEW YORK STATE, ACCESSIONS TO MEMBERSHIP IN THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA FROM NEW YORK STATE, AND OF TOTAL INCHES OF PAID ADVERTISING IN ONE OF THE LEADING HOLSTEIN BREED PAPERS (1917 in each case = 100)

Year	Average prices received for registered Holsteins in the United States	Money spent for A. R. O. testing in New York State	Accessions to Holstein-Friesian Assoc. of America membership from N. Y.	Inches of paid advertising in one of the leading Holstein papers
1917	100	100	100	100
1918	105	116	254	133
1919	124	154	266	162
1920	151	171	137	218
1921	111	154	57*	148
1922	83	96	101	92
1923	69	69	86	64
1924	64	60	87	54
1925	47	......	76	50

*8 months only.

Accessions to Membership in the Holstein-Friesian Association of America from New York State

The new membership in the National Association from New York was for 1917, 220; for 1918, 558; for 1919, 585; for 1920, 302; for 1921, 126; for 1922, 222; for 1923, 189; for 1924, 192; for 1925, 167, thus the largest number of new members was obtained in 1918 and 1919. The figures for 1921 are for an eight months' period only, because of adjustment in the fiscal year.

Advertising

When an industry or business is prosperous it makes greater use of advertising mediums than when times are dull. This is especially true of the purebred cattle business. Index numbers of the advertising revenue of one of the breed papers are shown in Table 4, together with index numbers of prices, money spent for testing and accessions to membership in the National Association. When prices for cattle rise it is to be expected that first, more official testing will be done, then more advertising, and finally more farmers who desire to enter the purebred dairy cattle business will join the association.

E. G. MISNER

TAXES PAID BY FARMERS

The aggregate real and personal property taxes levied in thirty-four towns, each in a different county, were used as basic materials for the making of a simple arithmetic index of taxes paid by farmers.

Taxes changed very little from 1887 to 1910. A sudden increase occurred in 1911, and a steady increase followed. In 1924, the index number of taxes was 232, when 1910-14 is considered as 100.

Taxes paid by New York farmers are compared with prices received by farmers in Figure 2. From 1917 to 1920 prices were higher than taxes. When prices fell, taxes continued to rise. The rapid increase in taxes, and the rapid decline in prices made it necessary for the farmer to sell 81 percent more farm products in 1924 than was required before the war to pay taxes.

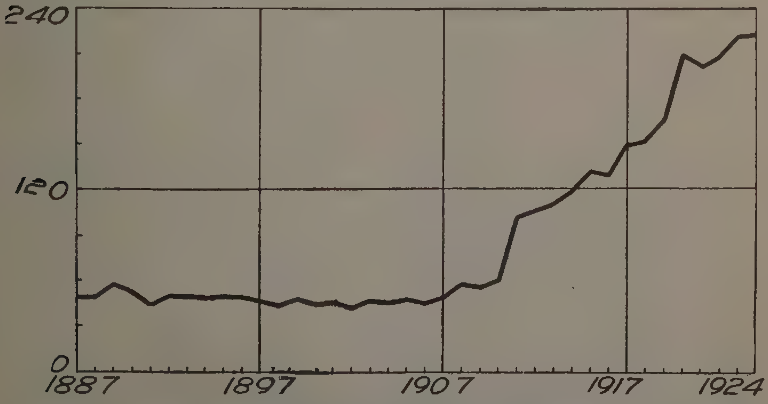

FIGURE 1.—INDEX NUMBER OF TAXES PAID BY FARMERS IN 34 TOWNS IN NEW YORK STATE, 1887 TO 1924.

For thirty years prior to 1909, taxes changed very little. Since 1909, taxes paid by farmers have increased four times.

TABLE 1.—INDEX NUMBERS OF FARM TAXES IN NEW YORK STATE*
1910-1914 = 100

Year	Index Number	Year	Index Number
1887	51	1906	45
1888	50	1907	50
1889	57	1908	58
1890	53	1909	56
1891	44	1910	61
1892	51	1911	103
1893	50	1912	107
1894	50	1913	111
1895	51	1914	119
1896	50	1915	132
1897	47	1916	129
1898	44	1917	150
1899	49	1918	153
1900	45	1919	167
1901	46	1920	209
1902	41	1921	201
1903	47	1922	208
1904	47	1923	231
1905	48	1924	232

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*Public utility taxes were eliminated in two ways: (1) Towns crossed by steam or electric railroads were not included. (2) Public utilities which follow the highways are taxed as special franchises and their assessments for each town are given in the annual reports of the State Tax Commission. Since the rate of tax levied on a special franchise is the same as that on general property, a comparison of the aggregate assessment of the special franchises in each town with the aggregate assessment of real anl personal property in that town establishes the proportion borne by the special franchises.

Only towns with little or no village populations were included. Towns in the Adirondack forest and mountain region were eliminated because of the presence of State-owned forests and the existence of much poor and much non-agricultural land.

The source materials for the index were:

(1) Annual Reports of the State Assessors, 1887-1896, inclusive, given in the Journals of the State Senate.

(2) Annual Reports of the State Tax Commission, 1897-1924 inclusive.

(3) U. S. Census Reports on town populations.

(4) Village population studies (unpublished) by Professor B. L. Melvin, of the Rural Social Organization Department.

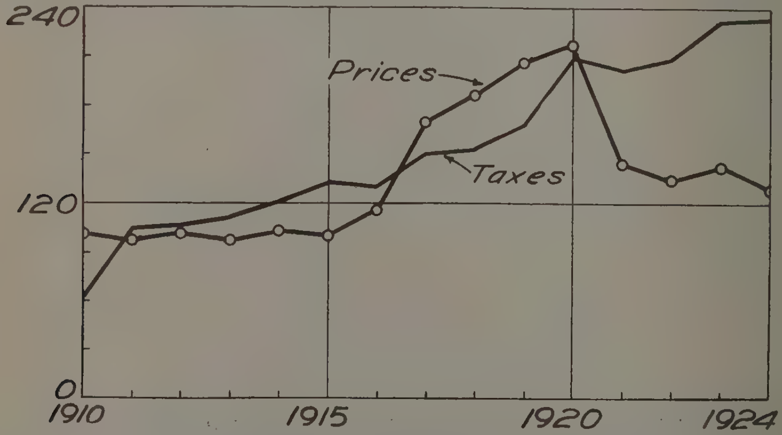

FIGURE 2.—INDEX NUMBERS OF TAXES PAID BY NEW YORK FARMERS AND PRICES PAID TO NEW YORK FARMERS FOR FARM PRODUCTS.
During 1917 to 1920, the index numbers of prices paid for farm products were higher than taxes. Since 1920, taxes have been much higher than farm prices.

M. SLADE KENDRICK

WHY TAXES ARE HIGH

Taxes paid by farmers are primarily for schools, and for wage payments for various local services. Since the local taxes are the primary taxes that farmers pay, the assumption often is made that these taxes are under the control of farmers, and that farmers are to blame if taxes are high. The conclusion is drawn that taxes can be lowered by farmers if they so desire. The conclusions are erroneous. Farm taxes are high because wages are high. Farmers cannot control wages and therefore can do very little to lower taxes. Pay of school teachers in the one-teacher schools in New York State in 1923 was 254, when the five years before the war is considered as 100[1]. Union wages in 1924 were 233 when the five years 1910-1914 is considered as 100. Taxes were 232. The close relationship of taxes and wages is shown in Figure 1. The total payments for teachers and for wages cannot be materially reduced. The primarily tax problem is how to collect the necessary funds.

When our taxation systems were designed the weaver, the tanner, the shoemaker and the teamster lived in the community. Profits which they made from the community were invested in the community, so that they could be reached through a general property tax. Today, the profits made by the various business agencies are not located in the community from which the profits were derived. These profits can be reached by taxes on corporation profits, by personal income taxes and by inheritance taxes.

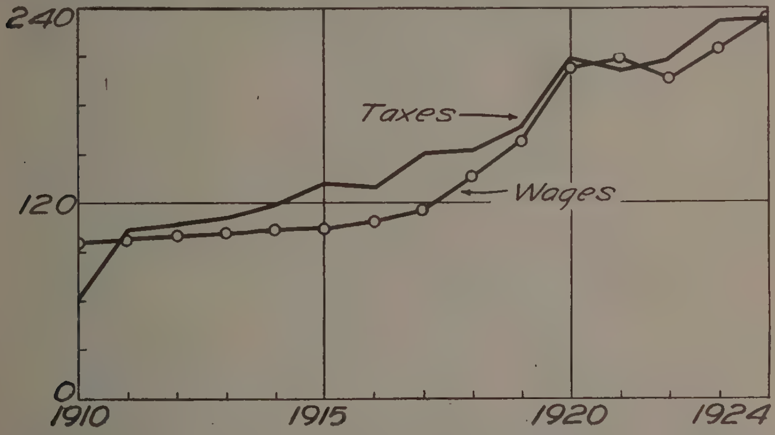

FIGURE 1.—TAXES PAID BY FARMERS IN NEW YORK AND UNION WAGE RATES
Since taxes are primarily payment for wages, taxes rose approximately as wages rose.

The taxes on farm land could be reduced by reducing or discontinuing the state tax on real estate and by greater state support for roads and schools.

Formerly, roads were primarily for local use and were paid for by the towns and counties. Today, even the dirt roads are often used for interurban highways much more than they are used by farmers. In many cases, farmers are paying out of proportion to the use which they make of the roads.

Our present theory of school support is to furnish the child with free education, expecting that when grown he will pay for educating the next generation. About one-half of the children educated in the country move to the city and so escape direct payment to the rural school district which educated them.

G. F. WARREN

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[1] Work, G. A. Salaries of Public School Teachers in New York State. Farm Economics No. 25, p. 284, June 10th, 1925.

CASH AND FUTURE PRICES OF WHEAT

It is sometimes stated that the price of grain as sold for future delivery represents the best guess as to probable prices on the delivery date. Apparently this is not the case. The future price on the average is lower than the cash price at the delivery date. For example, the price of wheat for delivery 6 months in the future was on the average 4.3 cents less than the cash price on the delivery date, for the 10 years, 1904 to 1913.

The cash and future prices for wheat at Chicago are given in Tables 1, 2, 3, and 4. Various grades are allowed for delivery on future contracts. Of the grades in the Tables, the seller would select the lowest-priced one for delivery. Comparing this with the average future prices, the difference between cash and future prices is found. As a ten-year average, future prices for each month were lower than the cash prices when the delivery month arrived. The differences varied with the period of time that the wheat was carried. The future price of wheat that was carried one month differed from the cash price by an average of 2.8 cents. For longer periods of carrying, the average was 0.7 of a cent per month. Booking and other costs for making the transaction are greater for the first month. Possibly part of the higher average cost just preceding delivery is due to uncertainty as the delivery date approaches. Apparently future prices may be expected to be somewhat below the cash price when the delivery month arrives.

It is sometimes contended that the cash prices of wheat are dominated by the future prices. Other persons contend that futures are dominated by cash prices. Both of these contentions are incorrect. The cash price represents the consensus of opinion of all buyers and sellers as to the price at which the available supply will be absorbed. The future trading price represents the consensus of opinion as to the price at which a future unknown supply can probably be moved. It is, however, slightly below the expected future price as previously explained.

Some persons believe that selling large quantities of future wheat, many times the qauntity produced, must depress the cash price of wheat. It is just as logical to assume that buying many times the available supply would unduly raise the cash price, for every time there is a sale there is a purchase. The usual effect of future trading is more like an active market as contrasted with a passive one. If a man has for sale a product that is not being bought and sold frequently, he is uncertain as to what the price should be. If the sales are numerous and if the identical commodity is bought and sold, a market price is established that represents the consensus of opinion. It may of course be entirely wrong, but it is more likely to be right than is the price when only a few sales are made. A sufficient amount of future trading to represent the judgment of many persons is desirable for the establishment of price judgments.

Near the close of the crop year, prices are much more variable than at other times of the year. This is due to uncertainty as to whether the supplies will be more or less than enough to finish out the year and to uncertainty concerning the new crop.

Prices are least variable in the winter months when changes in the weather have less influence on crop prospects and when the consumption, week by week, is small compared with the total stocks.

TABLE 5.—AVERAGE CENTS BY WHICH THE CASH PRICE OF WHEAT AT CHICAGO WAS GREATER THAN THE FUTURES FOR DELIVERY IN THAT MONTH —1903-4 TO 1912-13—FROM TABLES 1, 2, 3, 4

	May Wheat	July Wheat	Sept. Wheat	Dec. Wheat
January	3.4	2.9	4.8	....
February	3.2	2.5	4.7	....
March	4.7	3.2	5.2	....
April	4.4	3.3	5.1	—
May	....	0.6	2.9	3.8
June	....	1.1	2.4	3.0
July	....	....	1.9	1.7
August	5.9	....	3.1	2.5
September	4.8	....	....	1.2
October	4.4	....	....	0.4
November	6.0	2.7	....	2.4
December	5.3	4.1	....	....

TABLE 6.—AVERAGE CENTS BY WHICH THE CASH PRICE OF WHEAT AT CHICAGO WAS GREATER THAN FUTURE PRICE—1903-4 TO 1912-13—FROM TABLE 5

Months to delivery date	Cents by which cash price exceeded future price	Carrying charge per month
1	2.8	2.8
2	1.9	1.0
3	2.5	0.8
4	3.0	0.8
5	3.7	0.7
6	4.3	0.7
7	4.3	0.6
8	4.1	0.5
9	5.9	0.7

TABLE 7.—AVERAGE DIFFERENCE IN CENTS PER BUSHEL BETWEEN HIGH AND LOW PRICES FOR THE MONTH FOR FUTURE WHEAT AT CHICAGO FOR THE CROP YEARS 1903-04 TO 1912-13

Months in which transaction occurs	Delivery months			
	July	Sept.	Dec.	May
November	3.8	....	....	....
December	4.2	....	....	....
January	4.2	3.6	....	....
February	6.7	5.9	....	....
March	6.2	5.4	....	....
April	8.0	6.9	....	....
May	8.9	8.1	7.3	....
June	7.7	6.9	6.8	....
July	....	9.1	8.2	6.9
August	....	7.9	8.1	8.4
September	....	....	6.4	6.2
October	....	....	7.4	6.2
November	....	....	6.1	5.4
December	....	....	6.4	5.3
January	....	....	....	6.3
February	....	....	....	8.1
March	....	....	....	6.4
April	....	....	....	11.3

TABLE 8.—AVERAGE CENTS BY WHICH THE FUTURE PRICES OF WHEAT AT CHICAGO FOR THE DELIVERY MONTHS WAS GREATER THAN THE FUTURES FOR PREVIOUS MONTHS. 1908-9 TO 1915-16 (FROM TABLES 1, 2, 3, 4)

	May Wheat	July Wheat	Sept. Wheat	Dec. Wheat
January	3.6	—2.0	3.9	....
February	1.5	—3.0	4.1	....
March	4.6	—0.5	6.5	....
April	1.8	—3.6	3.9	....
May	....	—4.4	2.4	....
June	....	0.9	6.4	9.9
July	12.0	....	5.6	8.4
August	10.9	....	2.4	5.2
September	10.7	....	....	4.5
October	10.3	....	....	1.5
November	10.8	2.7	....	0.6
December	8.4	1.1	....	....

TABLE 9.—AVERAGE CENTS BY WHICH THE FUTURE PRICE OF WHEAT AT CHICAGO FOR THE DELIVERY MONTHS WAS GREATER THAN THE FUTURE FOR PREVIOUS MONTHS, 1908-9 TO 1915-16 (FROM TABLE 8)

Months to delivery date	Cents
1	1.4
2	1.8
3	2.2
4	2.7
5	4.4
6	6.3

Prices are more variable near the delivery date than they are for the same month when not near the delivery date. For example, November prices for July delivery are least variable and those for December delivery are most variable (Table 7). The greatest variability occurs for early delivery dates that come in summer. The data in the tables is for a period when prices were rising. This may have influenced the results, but the upward trend of prices was not sufficient to account for all the differences.

G. F. WARREN and F. A. PEARSON

FOOTNOTES TO TABLES 1, 2, 3, AND 4. PAGES 427 AND 428.

[1] Prices as reported by the Chicago Board of Trade.

*On August 25, 1917, future trading in wheat ceased.

¶During 1900-1903 cash wheat quotations were called "Regular Cash."

‡During May, 1918-19 and 1920-21 and 1921-22 cash wheat quotations were for No. 2 Northern Spring.

‡During July, 1919-21 and 1923-24, cash wheat quotations were for No. 2 Northern Spring.

‡During September, 1920-24, cash wheat quotations were for No. 2 Yellow Hard and better.

‡During December, 1919-20 Cash Wheat quotations were for No. 2 Northern.

°During December, 1920-24, cash wheat quotations were for No. 2 Yellow Winter.

xThe May cash price of No. 2 Yellow Winter for 1920 was 297.3 cents; 1921, 160.1; 1922, 138.2; 1923, 120.2; and 1924, 111.0.

xThe July cash prices for No. 2 Hard Winter for 1914 was 83.0 cents; 1915, 123.1; 1916, 115.8; 1917, 239.8; 1918, 226.0; and 1919, 229.3.

§The July cash prices for No. 2 Yellow Winter for 1920 was 278.8 cents; 1921, 126.0; 1922, 116.0; 1923, 102.1; and 1924, 128.5.

xThe September cash price for No. 2 Northern for 1919 was 251.1 cents; 1920, 254.7; 1921, 147.9; 1922, 118.6; 1923, 120.3; and 1924, 135.9.

†On September 14, 1925, the Board of Trade of Chicago made a change in the grade of spring wheat deliverable on future contract. According to *The Price Current-Grain Reporter*, p. 22 (490), September 30, 1925, No. 1, Hard Spring Wheat is deliverable on future wheat contracts at a premium of 2 cents per bushel, and No. 1, Dark Northern Spring wheat at a premium of 1 cent, per bushel. No. 1 Northern Spring Wheat is deliverable at the contract price. No. 2, Dark Northern Spring Wheat is deliverable at a discount of 2 cents per bushel and No. 2 Northern Spring Wheat at a discount of 3 cents per bushel.

No. 3, Dark Northern Spring Wheat and No. 3 Northern Spring Wheat were eliminated for delivery on future contracts on and after October 1, 1925. This change made it necessary to trade in "new" and "old" style wheat contracts on and after October 1, 1925.

The quotations given for May futures from October, 1925, are "old" contracts. The average May price for "new" style wheat contracts for October, 1925, was 141.7; November, 151.6; and December, 170.7.

The quotations given for December futures from October, 1925, are "old" contracts. The average December price for "new" style future wheat contracts for October, 1925, was 142.8; November, 155.8; and December, 175.3.

The quotations given for July futures during November and December, 1925, are "new" style wheat contracts.

TABLE 1—PRICES OF MAY FUTURES AND CASH WHEAT AT CHICAGO[1] IN CENTS PER BUSHEL

	Average May future price during:											Average cash price in May[x]	
Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Winter	Northern
1899-0	....	....	....	....	....	....	67.7	67.8	66.2	66.3	....	65.7¶	....
1900-1	....	....	....	....	75.8	73.5	76.6	75.5	75.8	71.7	....	72.9¶	....
1901-2	....	76.4	74.3	73.6	75.6	80.6	80.8	77.7	74.8	73.3	....	74.4¶	....
1902-3	....	69.8	70.1	72.7	75.1	76.7	77.9	78.2	74.4	76.3	....	78.1¶	....
1903-4	....	83.5	82.1	78.9	78.4	82.3	88.5	98.3	95.2	91.4	....	104.2	93.8
1904-5	87.7	105.1	112.3	112.0	111.3	111.4	115.6	117.5	113.7	108.3	....	99.1	102.1
1905-6	89.0	86.1	86.0	87.7	88.3	88.2	87.2	83.8	78.1	79.2	....	90.4	84.3
1906-7	83.0	78.6	77.8	78.6	78.6	78.3	77.3	78.5	76.3	78.0	....	91.2	96.8
1907-8	101.9	99.5	105.7	107.8	102.3	103.4	103.7	95.3	95.7	94.0	....	102.7	....
1908-9	95.8	99.5	102.2	103.0	106.7	107.4	107.0	112.9	116.6	123.8	129.3	146.8	131.1
1909-10	109.5	99.9	100.9	104.6	104.6	109.8	111.8	112.2	113.4	110.1	110.0	111.9	111.6
1910-11	109.1	109.2	106.1	101.0	96.0	96.3	99.7	92.9	89.7	88.7	96.4	96.3	102.8
1911-12	96.5	100.9	102.6	104.7	100.2	98.5	100.9	102.1	103.0	109.4	115.1	115.5	118.9
1912-13	100.3	97.2	95.4	96.9	92.6	90.6	92.9	93.2	90.3	91.8	90.5	104.8	92.7
1913-14	95.8	95.2	94.8	90.2	90.6	91.3	92.4	94.0	93.2	91.8	96.0	97.4	98.3
1914-15	88.8	107.7	119.9	118.2	121.6	124.2	141.5	159.1	151.1	159.1	154.6	154.7	155.4
1915-16	112.9	108.0	97.3	104.1	105.7	119.4	129.8	126.4	110.7	115.5	112.7	115.1	121.5
1916-17	....	149.1	152.5	167.2	187.1	170.1	183.7	172.5	187.6	229.3	286.4	299.6	291.9
1917-18*	....	....	....	....	....	....	....	....	....	....	....	217.0	220.0
1918-19	....	....	....	....	....	....	....	....	....	....	....	....	258.4‡
1919-20	....	....	....	....	....	....	....	....	....	....	....	....	323.9
1920-21	....	....	....	....	....	159.0	163.0	154.3	150.5	129.5	152.2	156.2	160.2‡
1921-22	....	125.1	132.1	115.2	110.6	114.6	113.4	135.6	136.9	137.8	137.8	136.3	153.5‡
1922-23	....	109.2	108.0	110.9	115.7	121.4	118.3	119.7	119.8	124.0	118.0	....	122.7
1923-24	106.1	108.9	109.9	111.7	109.2	108.6	108.9	111.1	106.5	102.6	104.8	....	....
1924-25	131.1	137.4	138.7	150.8	157.8	169.5	188.0	189.4	172.7	150.0	166.1	....	....
1925-26†	155.0	162.1	151.7	140.8	150.4	168.6	....	....	....	....	....	....	....
Av. 1903-4 to 1912-13	....	96.0	97.1	97.5	95.9	96.6	98.5	98.7	97.2	97.5	....	....	....
Average of cheapest grade													101.9

TABLE 2.—PRICES OF JULY FUTURES AND CASH WHEAT AT CHICAGO[1] IN CENTS PER BUSHEL

	Average July future price during:										Average cash price in July[x]	
Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	No. 2 Red Winter	No. 1 Northern
1899-0	....	....	....	68.3	68.4	67.1	67.7	66.9	75.9	....	77.0¶	....
1900-1	....	....	....	75.0	74.4	75.3	72.2	72.6	70.6	....	66.7¶	....
1901-2	....	....	80.6	80.5	78.0	75.4	74.2	74.7	72.6	....	76.0¶	....
1902-3	....	....	73.9	74.0	74.1	71.2	71.5	73.1	77.4	....	79.5¶	....
1903-4	....	....	77.3	82.2	89.8	90.6	87.0	87.0	87.0	....	102.0	100.9
1904-5	....	98.3	98.8	98.7	101.1	93.1	86.7	86.5	88.6	....	91.8	115.2
1905-6	....	83.7	83.7	84.5	82.8	78.1	78.5	81.2	82.8	....	78.6	79.2
1906-7	....	77.5	77.6	76.8	78.6	77.7	80.4	93.5	93.4	....	91.4	101.8
1907-8	101.9	97.0	97.2	98.2	91.3	90.7	87.1	90.5	87.6	....	89.5	116.6
1908-9	97.5	100.9	99.9	97.8	100.6	104.5	112.1	115.1	116.3	114.9	113.4	133.3
1909-10	98.6	96.8	100.2	102.1	103.2	107.0	103.5	101.6	95.3	106.4	107.0	122.5
1910-11	97.2	93.3	93.5	95.7	91.0	88.8	86.6	88.6	89.7	87.6	87.1	100.3
1911-12	99.4	94.7	94.2	95.3	96.2	98.4	104.9	111.3	108.0	101.0	103.4	110.1
1912-13	94.0	89.3	87.7	90.3	91.5	89.6	90.9	90.1	91.0	86.7	87.7	91.8
1913-14	....	88.0	88.2	88.1	89.1	88.5	86.7	86.8	83.3	81.4	82.6	93.4
1914-15	....	115.3	116.8	126.0	134.0	120.3	130.8	129.5	108.1	111.4	118.4	143.7
1915-16	....	102.0	112.4	122.1	120.3	108.8	114.8	113.8	103.0	112.0	118.8	119.9
1916-17	140.0	154.2	141.6	150.5	148.2	158.8	193.6	227.9	214.7	228.5	233.9	259.6
1917-18*	....	....	....	....	....	....	....	....	....	....	224.8	....
1918-19	....	....	....	....	....	....	....	....	....	....	225.3	249.6‡
1919-20	....	....	....	....	....	....	....	....	....	....	274.8	280.6‡
1920-21	....	....	....	....	....	123.8	108.8	119.5	131.6	124.3	124.4	141.3‡
1921-22	....	....	104.1	101.4	118.4	118.7	123.2	123.2	113.3	113.2	114.2	....
1922-23	104.0	106.9	111.9	112.0	114.6	115.4	121.7	116.8	107.6	99.9	100.0	....
1923-24	....	....	106.7	107.2	110.9	107.4	104.4	106.7	110.9	124.6	127.0	145.6‡
1924-25	....	....	147.5	161.9	160.0	152.9	139.1	154.3	158.0	152.4	....	....
1925-26†	....	134.4	148.3	....	....	....	....	....	....	....	....	....
Average 1903-4 to 1913-14	....	....	91.0	92.2	92.6	91.9	91.8	94.5	94.0	....	....	....
Average of cheapest grade											95.1	

TABLE 3.—PRICE OF SEPTEMBER FUTURES AND CASH WHEAT AT CHICAGO[1] IN CENTS PER BUSHEL

Year	Average September future price during:									Average cash price in Septemberx		
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	No. 2 Red Winter	No. 1 Northern	No. 2 Hard Winter
1900	....	....	67.6	68.5	....	....	78.1	74.6	....	75.8¶	....	....
1901	....	....	75.8	72.0	71.1	69.0	67.8	70.6	....	69.5¶	....	....
1902	....	77.2	75.1	73.9	73.6	71.2	72.5	70.0	....	76.7¶	....	....
1903	....	72.2	69.8	69.0	70.5	74.9	77.5	80.8	....	84.8¶	....	....
1904	78.7	84.9	85.0	82.3	81.7	82.4	88.0	104.3	....	111.8	118.6	....
1905	92.0	93.1	86.8	82.1	80.7	83.8	86.6	81.7	....	82.8	89.8	....
1906	82.9	81.9	77.9	77.6	79.6	82.7	77.9	71.7	....	71.4	78.0	....
1907	77.3	78.2	78.1	81.9	94.9	96.1	94.3	88.7	....	95.2	108.2	....
1908	95.1	88.6	87.8	84.6	86.8	85.9	90.0	93.8	....	99.1	106.3	....
1909	94.5	96.1	98.2	103.9	107.0	109.4	108.7	99.5	102.5	107.2	105.5	....
1910	97.9	98.8	104.0	101.2	99.6	93.5	104.2	101.0	96.6	98.2	114.2	....
1911	94.1	90.1	88.4	86.3	87.7	89.0	89.3	91.0	92.8	93.2	106.7	....
1912	93.6	94.3	96.1	102.2	106.6	104.9	97.2	93.4	90.8	104.5	93.2	....
1913	89.0	90.1	89.0	90.2	89.7	90.8	87.5	86.7	87.3	92.6	91.9	....
1914	88.2	88.4	87.9	86.3	85.6	82.1	81.0	95.7	110.0	110.8	118.2	110.5
1915	124.6	124.6	109.2	118.0	122.3	105.4	105.6	104.2	100.8	109.7	107.1	108.8
1916	119.0	116.7	107.3	113.0	113.9	105.3	113.7	141.0	150.8	153.0	163.6	157.0
1917*	137.1	137.8	146.6	174.0	199.5	190.3	206.3	213.1	....	217.1	220.2	217.2
1918	....	....	....	....	....	....	....	....	....	223.7	226.8	223.8
1919	....	....	....	....	....	....	....	....	....	225.0	....	224.8
1920	....	....	....	....	....	....	....	....	....	252.5	250.3‡	....
1921	....	....	....	....	....	121.8	124.3	120.9	125.1	128.6	126.9‡	....
1922	....	....	111.9	116.4	118.9	113.7	111.7	103.3	103.5	107.4	105.5‡	....
1923	108.9	112.4	113.6	119.7	115.2	107.0	99.5	99.8	101.7	105.1	109.6‡	....
1924	106.4	110.9	108.1	105.3	107.7	112.5	123.6	127.6	128.1	132.8	130.7‡	....
1925	150.8	146.8	141.3	131.6	146.7	155.5	148.6	159.6	148.7	....	....	....
Av. 1904 to 1913	89.5	89.6	89.1	89.2	91.4	91.9	92.4	91.2	....	....	....	....
Average of cheapest grade											94.3	

TABLE 4.—PRICE OF DECEMBER FUTURES AND CASH WHEAT AT CHICAGO[1] IN CENTS PER BUSHEL

Year	Average December futures during:									Average cash price in December		
	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	No. 2 Red Winter	No. 1 Northern	No. 2 Hard Winter
1900	....	....	....	....	....	....	75.6	72.2	....	70.4¶	....	....
1901	....	....	69.3	69.7	72.9	70.8	70.2	72.1	....	76.7¶	....	....
1902	....	74.9	72.3	72.5	67.5	68.8	71.4	73.2	....	74.3¶	....	....
1903	....	71.3	74.8	77.3	81.6	80.3	79.5	78.6	....	82.9¶	....	....
1904	....	80.0	80.5	86.0	103.1	110.7	112.6	111.0	....	113.9	117.8	....
1905	....	82.1	83.6	86.8	83.3	83.7	86.6	86.0	....	87.7	87.0	....
1906	....	80.3	83.5	79.9	74.6	73.7	74.1	73.5	....	74.1	....	....
1907	83.6	96.1	98.0	97.8	93.7	99.7	101.6	93.6	....	96.6	110.9	....
1908	....	87.8	87.3	92.0	95.7	99.5	100.7	103.5	....	103.7	108.6	....
1909	102.8	105.3	107.7	106.7	96.4	97.7	103.7	105.7	112.7	122.4	113.0	....
1910	....	97.4	93.9	105.7	104.4	100.3	94.9	90.0	91.8	92.9	106.0	....
1911	87.8	89.6	91.1	92.4	95.3	96.8	99.4	94.6	94.0	95.2	107.3	....
1912	....	106.7	105.6	99.1	93.3	90.9	92.3	86.9	85.2	105.8	87.7	....
1913	....	91.5	93.3	91.1	90.3	90.0	85.2	86.0	88.2	95.8	91.3	....
1914	....	88.6	84.6	83.9	100.8	112.8	112.4	115.3	120.3	120.5	122.1	120.6
1915	....	....	107.1	108.0	103.5	94.0	102.7	104.1	118.0	122.0	118.4	120.9
1916	115.9	115.5	108.1	116.6	144.5	151.8	167.8	182.7	160.2	173.7	175.3	173.5
1917*	....	....	....	....	....	....	....	....	....	217.0	220.0	217.0
1918	....	....	....	....	....	....	....	....	....	231.1	228.4	226.3
1919	....	....	....	....	....	....	....	....	....	244.1	319.4‡	255.3
1920	....	....	....	248.6	234.4	236.6	204.6	179.3	168.5	200.1	175.5‡	....
1921	....	....	....	127.1	123.0	127.8	110.6	106.8	110.6	....	....	113.2°
1922	....	....	116.7	114.0	104.3	103.5	110.4	117.4	123.2	133.1	....	125.1•
1923	....	....	111.4	102.5	103.7	104.6	107.3	103.9	103.4	108.7	....	108.4•
1924	108.0	110.1	115.0	126.5	132.0	132.6	146.2	150.8	164.9	177.0	....	164.7°
1925†	....	148.3	157.3	149.8	158.7	148.4	141.9	154.6	172.8	....	....	....
Av. 1904 to 1913	....	91.7	92.5	93.8	93.0	94.3	95.1	93.1	....	....	....	....
Average of cheapest grade											95.5	

FARM ECONOMICS

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BUSINESS CONDITIONS

Year	Farm Prices New York[1]	Farm Prices United States[1]	Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
1913	97	99	102	96	113	111	....
1914	103	101	100	96	98	81	....
1915	100	101	103	119	74	101	101
1916	116	119	130	152	70	130	114
1917	170	180	181	140	92	124	129
1918	186	206	198	130	110	121	160
1919	206	215	210	160	102	94	185
1920	217	214	231	144	137	109	222
1921	144	119	150	118	125	48	203
1922	134	124	152	146	86	77	197
1923	142	137	157	155	95	112	214
1924	128	140	153	166	77	85	218
1925	148	154	162	221	77	97	223
Sept., 1924	129	137	152	170	53	68	221
October	127	145	155	169	53	77	217
November	134	145	156	178	58	83	218
December	135	147	160	190	67	96	223
Jan., 1925	136	154	163	201	77	110	223
February	136	153	164	203	80	111	220
March	136	157	164	200	82	109	224
April	141	152	159	201	83	102	218
May	150	151	158	209	82	91	221
June	157	153	161	214	81	87	220
July	150	156	163	222	75	88	220
August	156	160	164	228	70	88	222
September	148	152	163	236	69	89	223
October	147	151	161	243	72	92	225
November	165	153	161	248	75	97	226
December	159	152	159	250	80	103	229
Jan., 1926	162	150	159	252	89	108	229
February	159	150	158	255	91	95	225
March	....	146	156	239	89	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

The long expected drop in the stock market is occurring and is very violent. From the first week of February to the last week of March, the index number of 70 industrial stocks dropped from 258 to 231, or 27 points, or 10 percent. Practically all stocks dropped in price.

The decline in the stock market has been accompanied by a decline in commodity prices. Fisher's weekly index number of wholesale prices declined from 163, during the first week of February, to 155 during the last week of March.

The present amount of city building is very high, but it is improbable that building will continue throughout the year at the high level of last year. Some persons may have considerable distressed real estate on their hands.

City business is still active, but the activity is decreasing. There may be considerable recession in business before the year is over. If this occurs and if the usual relationships to agriculture hold, a considerable decline in the demand for the choicer farm products is to be expected. The most favorable spots in American agriculture during the last three years has been the domestic demand for the choicer farm products. Apparently the conservative policy for farmers this year is to be careful about expanding production on borrowed capital.

FARM PRICES

A striking decline has occurred in the prices of farm products. During March, the index numbers of the prices for 16 farm products in the United States fell below the February index; 2 were stationary; and only 5 rose in price. The index number of sheep dropped 20 points; wool, 18; lambs, 16; beans, 15; apples, 13; cotton, 12; wheat and flaxseed, 10; hogs, 8; white potatoes, 7; corn and veal calves, 5; milk cows, 4; oats, 2; and barley and chickens, 1. Hay and beef cattle were stationary. The index numbers of sweet potatoes and horses for March were 1 point above the February level; eggs and buckwheat 2 points; and butter, 4 points.

The weighted index number of all farm products in the United States now stands at 146, which is 14 points below the peak last August. This is the lowest that prices have been since the fall of 1924. Many articles have been written indicating that the agricultural depression is over. The depression is not over and there is, as yet, no indication as to when it will be over.

During the first two months of this year the index number of farm prices for the United States declined 4 points. Farm prices in Missouri declined 1 point; Ohio, 3; Iowa, 4; Georgia, 6; Oregon, 9; and North Dakota, 14 points.

Prices paid to farmers in New York, have not been as severely affected as the average for the United States, because livestock products have held up better than grain and cotton, and because the price of potatoes in New York has remained high.

FEED PRICES

Prices of feed in straight cars at Utica, New York, are given in Table 1. These are Buffalo prices plus freight to Utica. Utica is about as far from New York City as the average New York dairy farm. These feed prices may be compared with the milk prices given on page 435.

A good corn crop and a large cotton crop with a shortage of hogs have resulted in cheap feeds. There is, at present, no reason to expect a material rise in feed prices, but conditions next fall may be different. The most probable crop is an average crop. The chances are that the cotton crop will be less than last year, because last year was an usually favorable season. The weather, thus far, has not been favorable for planting. It is also probable that the number of hogs will be larger than last year. These probabilities together with prices for milk, somewhat higher than last year, suggest that feed prices are not likely to be at the present level next fall.

TABLE 1.—INDEX NUMBERS AND PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK, 1926.

	Corn Meal	Gluten Feed	White Hominy	Bran	Standard Mid-dlings	Flour Mid-dlings	Red Dog	Linseed Oil Meal 34% protein	Cottonseed Meal 43% protein
Five-year average prices, March, 1910-1914	$26.71	$29.31	$26.66	$26.15	$26.05	$28.48	$29.51	$33.29	$31.86
Prices for 1926									
January	$39.05	$45.30	$35.54	$34.94	$34.77	$37.63	$44.22	$52.32	$43.25
February	37.27	42.26	32.70	32.33	32.33	35.28	41.55	49.95	42.45
March	35.61	38.71	30.88	30.40	30.29	33.29	37.88	47.38	41.46
Index numbers 1926									
January	142	150	128	134	133	131	145	151	132
February	136	138	118	123	123	123	137	144	132
March	133	132	116	116	116	117	128	142	130

The farmers who have the money or necessary credit may find it desirable to lay in a supply of feed for fall use. Wheat feeds, cottonseed meal, and hominy are particularly cheap. Any product that one needs, the price of which is only 16 percent above pre-war, is cheap.

G. F. WARREN and F. A. PEARSON

AN IMPORTANT FACTOR TO CONSIDER IN DECIDING ON HOW MANY ACRES OF POTATOES TO PLANT IN 1926

At present prices, potato seed is very high. During the past thirty years, 1917 was the only spring in which Western New York farmers received as much for their potatoes, in terms of the general price level, as they did in March of this year. At these prices, it will probably take a much larger part of the 1926 crop to pay for seed than is usually required. The potatoes used for seed this year may be worth, in dollars, as much as the total potato crop was in 1922.

In the six of the past thirty-one Aprils, when potato prices were highest, relative to the general price level, it took from 31 to 51 per cent of the crop, if sold in October, to pay for the seed. The average of the other twenty-five years was 13 per cent. This is assuming that Western New York growers had average state yields and that they planted 12 bushels of table stock per acre. The crop

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.8	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	26.8	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1925												
March	112.1	49.7	164.0	81.5	112.4	267.8	3.91	24.5	12.39	189	71.4	180.8
April	103.8	44.7	140.5	76.1	104.1	244.7	3.84	23.7	12.84	202	70.5	196.2
May	107.5	45.4	149.1	75.9	113.3	251.8	3.91	23.0	12.17	251	70.6	189.1
June	111.0	48.3	152.7	76.4	112.3	246.8	4.28	23.0	11.82	280	84.4	170.2
July	104.4	45.3	140.3	73.5	115.7	227.6	3.98	22.3	12.48	290	125.5	188.7
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	5.43	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	5.81	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	5.39	16.5	12.97	......	225.6	171.4

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	278	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1925												
March	185	124	184	130	159	154	179	198	103	159	107	207
April	167	110	158	118	144	141	175	191	103	159	104	211
May	166	110	166	117	155	143	172	183	100	193	101	193
June	164	116	168	118	148	141	185	181	96	222	122	177
July	151	109	161	120	146	136	173	176	104	238	169	206
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	190
October	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	148	109	172	332	196
1926												
January	120	104	181	97	121	139	241	140	113	......	352	190
February	115	99	174	88	114	127	262	145	108	......	344	195
March	110	97	164	87	116	117	247	133	108	......	337	196

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.8	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
March	155	81	20.0	23.9	39.5	56.19	6.18	9.21	8.20	13.48	43.0	11.83
April	158	83	21.1	24.2	39.7	56.85	6.55	8.80	8.42	12.22	40.8	11.64
May	179	82	22.0	24.8	39.5	57.88	6.48	8.35	7.53	11.99	36.9	10.78
June	201	81	21.6	26.1	38.2	57.79	6.46	8.18	7.04	11.62	35.7	10.82
July	159	81	21.4	27.9	39.2	57.95	6.55	8.65	7.17	11.71	39.4	12.02
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.8	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	168	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
March	143	56	179	111	153	115	117	133	171	217	230	160
April	138	57	183	142	156	115	119	130	166	189	227	154
May	146	57	186	149	160	117	118	127	152	186	207	149
June	164	56	183	156	163	116	119	121	148	184	204	151
July	155	57	180	167	171	118	123	128	157	192	225	166
August	166	57	173	174	169	118	123	128	166	208	214	163
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	153
December	178	54	181	160	163	121	118	133	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Onions	Pota-toes	Apples	Cabbage
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	bu.	cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	73	2.28	15.42	105	69	103	1.03
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.84
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.35
1925	123	57	164	89	104	4.13	12.95	184	107	126	2.46
1925											
March	143	61	185	96	121	4.40	12.60	156	55	130	1.78
April	128	60	156	92	104	3.90	12.40	172	49	133	1.60
May	129	59	168	97	109	4.20	12.00	200	48	150	3.60
June	134	60	178	97	106	3.75	12.00	259	50	162	2.70
July	126	59	163	91	122	4.00	12.30	290	86	126	4.30
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85
December	95	50	160	75	87	4.50	14.30	157	218	120	2.47
1926											
January	94	51	169	77	88	6.10	14.30	......	244	136	......
February	95	50	173	76	87	6.30	13.90	......	245	128	......
March	90	50	163	77	85	6.00	14.20	......	245	129	......

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Pota-toes	Apples	Cab-bage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
1925	165	117	166	116	139	173	84	188	155	155	257
1925											
March	201	130	185	125	170	190	81	144	81	144	168
April	180	122	156	119	142	171	80	164	71	129	155
May	177	118	168	123	145	179	76	180	67	133	308
June	179	118	175	121	138	160	74	204	71	165	211
July	166	116	161	117	145	165	77	221	125	143	172
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385
December	127	106	163	100	121	185	94	191	341	162	380
1926											
January	131	113	171	103	124	261	94	......	381	168	......
February	134	106	173	101	121	272	91	......	355	147	......
March	127	106	163	100	120	260	91	......	360	143	......

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November....	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December....	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	38	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	120	25.1	43	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1925												
March	114	25.1	31	45	2.51	69.10	11.50	5.50	6.50	14.00	48	11.30
April	118	25.4	28	46	2.39	73.00	10.90	6.00	6.20	13.40	44	12.60
May	124	26.6	28	46	2.14	77.30	9.70	6.30	5.90	12.40	40	11.90
June	133	26.1	31	45	2.05	77.00	10.10	5.90	6.20	12.60	38	12.10
July	128	26.9	35	46	2.10	80.70	10.60	6.40	6.10	12.50	43	12.30
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September ..	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November ..	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December ..	115	23.5	61	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	117	25.6	46	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February ..	127	26.9	38	49	2.56	84.10	12.20	6.40	6.50	12.80	48	12.00
March	126	26.8	33	48	......	84.00	12.00	6.20	5.80	12.30	43	12.20

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	98
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	73	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
1925	68	170	152	156	156	137	136	108	149	202	211	154
1925												
March	65	177	111	145	149	124	138	106	152	217	229	146
April.......	65	172	133	153	163	129	141	112	136	196	210	161
May.........	70	179	147	159	180	139	132	112	137	190	200	157
June........	74	172	155	161	192	135	128	107	146	190	190	164
July..........	73	177	159	170	167	143	130	117	147	190	205	164
August........	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October ..	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159
December	65	170	149	156	140	145	139	108	147	209	210	163
1926												
January..	68	188	121	150	145	154	143	112	141	199	195	157
February..	73	192	119	148	152	155	146	121	154	200	218	160
March	72	189	118	155	......	150	144	119	136	190	205	157

[1] Net pool price of 3.7% milk at Utica, N. Y.

raised from potatoes worth $3.42 per bushel in April, 1920, when held until April, 1921, sold for 29 cents per bushel. At these prices, the total crop paid for about two-thirds of the seed.

When seed is very expensive it would seem advisable to plant somewhat less than the usual amount per acre. Small seed pieces may be used. In such a year more farmers plant potatoes too small to sell. It is possible that a bushel of table stock sold now may next year buy two bushels of certified seed.

High prices tend to increase both the acres planted and the yields per acre. The weather, however, largely determines the crop. If the weather this year is normal the price of potatoes would be expected to be somewhat below normal. At present seed prices, it is certain that it will cost more than usual to grow potatoes in 1926.

YEARS OF HIGHEST PRICED SEED COMPARED WITH OTHER YEARS

	Average of 6 highest priced seed years	Average of 25 other years
Price per bushel at planting time (April)	$1.69	$0.59
Cost of seed per acre (12 bu.)	20.28	7.08
Average New York State yield (bus.)	97	91
Price per bu., following October	$0.49	$0.58
following April	.40	.90
Value crop per acre at October prices	$47.53	$52.78
April prices	38.80	81.90
Value of crop above seed at October prices	27.25	45.70
April prices	18.52	74.82
Per cent seed was of value of crop October prices	43	13
April prices	52	9
Acres of potatoes in New York State	400,000	384,400

Prices used were those paid to farmers at Batavia, N. Y. *Farm Economics* No. 18, page 175.

Prices paid farmers for potatoes during the month of April at Batavia, N. Y., were highest relative to the general price level, for the years 1917, 1920, 1912, 1904, 1898, 1896.

G. P. Scoville

PRICES PAID FOR WHEAT AT ITHACA, NEW YORK

The Fall Creek Milling Company has records of purchases and sales of wheat from 1862-1926. The wheat purchased has been of many grades and qualities. There has been little uniformity in variety of wheat as farmers have produced many kinds. The records reported the following varieties and grades of wheat; red wheat, white wheat, spring wheat, Tredwell, Wickes, Soles, Wabash, Diehl, Strong, as well as grades No. 1 and No. 2. Practically all the wheat purchased was used for milling.

The prices given in Table 1 are the averages of the prices paid producers for wheat during each month.[1] The prices include the Civil War and the World War periods and the intervening years. In this study the lowest price recorded during the Civil War period was $1.11 (September, 1862). During the next five years the price of wheat climbed steadily upward, barring minor fluctuations, until it reached $3.06 (June, 1867). During this period of 58 months wheat advanced in price $1.95 or 3.36 cents per month. In the 23 months that followed, the price dropped $1.82 or at the rate of 8 cents per month and reached $1.24 in May of 1869. The decline was much more rapid than the advance, and all but 7 cents of the accumulative rise of 58 months were wiped out in the 23 months following.

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[1] The blank months indicate that the Fall Creek Milling Company reported no purchases of wheat during that month.

For the 24 years, 1869-1894, the trend of wheat prices was definitely downward. In February, 1894, the price reached the lowest point, 58 cents per bushel. For the 22 years, 1894-1916, there was a

TABLE 1.—PRICES PAID TO FARMERS FOR WHEAT AT ITHACA, NEW YORK, 1862-1925
(cents per bushel)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Calendar Year	Crop Year
1862	......	......	......	......	......	......	......	112	111	118	124	......	116	......
3	122	136	151	162	......	141	130	122	115	133	135	151	136	131
4	150	145	146	150	161	177	......	231	225	187	......	......	175	143
5	246	241	232	231	155	158	145	153	183	210	216	224	200	212
6	......	197	233	225	238	256	200	240	254	288	254	273	242	207
7	259	295	294	294	295	306	......	214	211	261	257	253	267	271
8	260	264	262	264	269	258	272	250	239	230	170	202	245	252
9	187	165	160	......	124	142	133	138	140	134	131	124	143	195
1870	119	161	115	156	123	142	141	144	141	135	140	136	138	135
1	139	149	152	158	154	161	144	137	133	146	141	141	146	146
2	141	......	146	150	......	......	......	......	174	168	157	165	157	142
3	164	171	170	161	179	165	155	155	156	149	154	158	161	167
4	158	165	163	164	153	155	146	133	125	118	124	118	144	157
5	115	108	105	114	130	125	129	146	144	135	138	135	127	122
6	133	130	129	......	137	140	126	118	117	119	122	126	127	136
7	135	148	150	158	211	181	156	146	135	140	140	137	153	143
8	134	128	125	130	130	112	108	102	101	100	98	99	114	134
9	98	97	102	103	104	111	113	105	105	123	130	138	111	102
1880	140	134	138	129	123	118	110	101	99	102	107	113	118	125
1	109	108	107	109	110	115	119	115	130	140	130	128	118	108
2	129	132	129	132	140	132	126	106	104	102	103	102	120	130
3	103	111	115	113	115	117	113	114	109	110	106	108	111	110
4	107	106	107	106	107	106	104	99	90	84	82	76	98	108
5	83	85	86	92	101	99	100	98	95	95	96	93	94	90
6	91	90	90	89	88	86	86	83	83	80	79	80	85	93
7	83	81	82	83	87	86	85	81	80	81	82	87	83	83
8	88	89	89	87	99	100	93	97	98	112	113	110	98	87
9	108	106	102	99	98	94	92	89	88	88	86	86	95	102
1890	86	84	83	86	92	92	93	98	102	103	103	101	94	88
1	100	102	105	114	114	108	101	101	101	100	100	100	104	104
2	96	95	95	94	94	93	88	83	81	79	76	75	87	98
3	75	75	75	75	72	70	68	66	69	69	66	66	70	77
4	65	64	62	63	60	61	61	59	61	58	60	60	61	65
5	59	58	61	72	82	......	71	64	62	63	65	67	66	63
6	68	72	71	69	......	66	66	66	63	69	91	91	72	67
7	88	81	78	79	81	82	76	81	92	89	81	87	83	78
8	86	86	89	93	115	97	82	70	64	66	65	80	83	89
9	70	73	74	74	73	75	72	68	67	68	68	68	71	72
1900	68	68	68	68	70	71	78	76	76	76	75	75	72	69
1	75	75	73	75	77	76	73	71	69	70	71	75	73	76
2	79	83	84	80	86	80	82	74	70	74	76	79	79	77
3	76	80	80	81	84	79	87	83	77	78	80	80	80	78
4	82	85	99	101	101	103	100	106	113	112	114	115	103	88
5	115	116	115	110	100	102	103	84	83	82	84	86	98	110
6	88	86	82	83	85	89	88	75	75	75	75	76	81	86
7	75	76	76	76	89	98	94	89	93	100	103	100	89	80
8	101	97	104	99	104	102	98	96	98	100	102	103	100	99
9	100	103	109	117	116	135	138	106	104	106	110	112	113	106
1910	118	119	121	115	110	105	106	105	98	95	91	90	106	114
1	92	89	87	85	90	89	90	87	90	92	92	94	90	93
2	93	97	98	100	112	114	109	101	100	103	102	100	102	97
3	100	100	101	99	100	98	98	94	93	93	92	94	96	101
4	95	95	97	96	97	97	93	108	115	108	112	113	102	94
5	127	154	142	144	147	129	144	108	106	106	108	111	127	124
6	121	133	124	......	127	119	120	143	146	152	174	171	139	119
7	179	193	200	214	298	274	245	244	222	214	214	213	226	189
8	215	213	217	214	221	226	223	225	219	224	217	220	220	222
9	219	217	217	235	250	257	241	229	226	216	220	220	229	227
1920	225	232	232	234	288	280	284	247	245	219	191	177	238	237
1	177	172	166	151	128	139	130	126	120	119	108	114	138	191
2	118	124	130	125	138	118	117	109	102	108	118	128	120	122
3	126	129	128	136	142	138	120	128	108	115	115	111	125	123
4	114	113	117	119	112	115	130	137	130	141	149	159	128	116
5	190	204	190	176	188	193	182	168	158	155	158	165	177	166
6	180	183	171	......	......	......	......	......	......	......	......	......	......	......

Courtesy C. H. Hull, Fall Creek Milling Co., Ithaca, N. Y.
(Note: 1862-79 prices are currency prices.)

fairly gradual and steady upward trend in prices. From 1894 to 1916 the price of wheat more than doubled, and in July, 1916, it was $1.20.

During the World War period prices fluctuated around the $2.25 level. Two high points were reached in May, 1917, and in May, 1920, at $2.98 and $2.88 respectively. Beginning with August, 1920, the price dropped rapidly until it reached $1.08 in November of 1921. In the 48 months from July, 1916, to July, 1920, wheat rose $1.64 or 3.4 cents per month. From August, 1920, to November, 1921, the price of wheat dropped $1.76 in 16 months or 11 cents per month. This was a much more rapid decline than occurred after the Civil War as the drop took place in 7 months less time and at a rate of 3 cents higher per month. During the agricultural depression the price of wheat fluctuated around $1.20 per bushel.

Comparison of Chicago and Ithaca Prices

A close relationship exists between the prices paid for wheat at Ithaca and the cash price of wheat at Chicago. Table II shows months and range of price when wheat was high in price. Conversely, Table III shows the months and range of price when wheat was low in price.

The prices of wheat at Chicago and Ithaca are not quite comparable as the cash price of wheat at Chicago is an average of the high and low price in each month for a specified grade or grades, whereas the price of wheat at Ithaca is an average of all quotations for all wheat purchased from farmers.

TABLE II.—RANGE IN THE PRICE OF WHEAT AT CHICAGO AND ITHACA IN 9 YEARS WHEN WHEAT WAS HIGH IN PRICE.

At Chicago					At Ithaca				
								Average	
Year	Month	High	Low	Aver.	Month	High	Low	(High & Low)	(all quotations)
1864	August	210	198	204	August	240	148	194	231
1867	May	295	280	288	June	350	250	300	306
1877	May	176	141	158	May	265	155	210	211
1888	September	165	90	128	November	118	94	106	113
1898	May	185	117	151	May	154	85	120	115
1909	June	160	150	155	July	145	132	138	138
1915	February	168	145	157	February	171	135	153	154
1917	May	345	261	303	May	338	261	299	298
1920	May	345	295	325	May	325	240	273	288

The Ithaca market follows the Chicago market closely. During 1864, 1877, 1898, 1915, 1917 and 1920, the high price of wheat occurred during the same months at both Chicago and Ithaca. In the years 1867 and 1909, the high price of wheat came one month later at Ithaca than at Chicago. In 1888 the high price of wheat at Ithaca occurred two months after the high points in Chicago. (See Table II).

The 9 years in which the price of wheat was low show less difference than the 9 years in which the price of wheat was high. (Table III). In 1865 the Ithaca wheat price reached its low point in July—three months later than the Chicago price and again in 1921 when the lowest point was reached in November—one month after the bottom at Chicago.

TABLE III.—RANGE IN THE PRICE OF WHEAT AT CHICAGO AND ITHACA IN 9 YEARS WHEN WHEAT WAS LOW IN PRICE.

At Chicago					At Ithaca				
								Average	
Year	Month	High	Low	Aver.	Month	High	Low	(High & Low)	(all quotations)
1865	April	120	102	111	July	160	125	143	145
1870	March	79	74	77	March	125	110	118	115
1878	November	85	79	82	November	102	85	94	98
1895	February	52	50	51	February	66	55	60	58
1898	September	68	63	66	September	80	55	67	64
1911	April	92	83	88	April	86	82	84	85
1916	June	107	102	104	June	133	108	120	119
1918	February	217	217	217	February	218	206	212	213
1921	October	119	115	117	November	155	100	127	108

When the high and low prices given in Table II for wheat at Ithaca were averaged and compared with a similar average for Chicago, it was found that except for the years 1869 and 1877, the Chicago price was always higher than the Ithaca price. Conversely, when similar averages of the high and low prices given in Table III were compared it was found that except for the years 1911 and 1918 the Chicago price was always lower than the Ithaca price.

Ithaca's wheat prices follow those of Chicago closely and form their highs and lows at the same time or within three months after Chicago.

Wheat prices after the Civil War and World War periods declined more rapidly than they rose during these periods.

The price of wheat in the Ithaca market fluctuates within a narrower range than in the Chicago market.

FRANK J. WALRATH

HAY PRODUCTION AND PRICES

For at least thirty years prior to 1900, the trend in the purchasing power of hay in the New York City market was upward. Since 1900, the purchasing power of hay has decreased 20 percent. The smooth curve in Fig. 1 shows a decrease of 1.7 percent per year for recent years. The decrease in the farm price of hay has been even more severe.

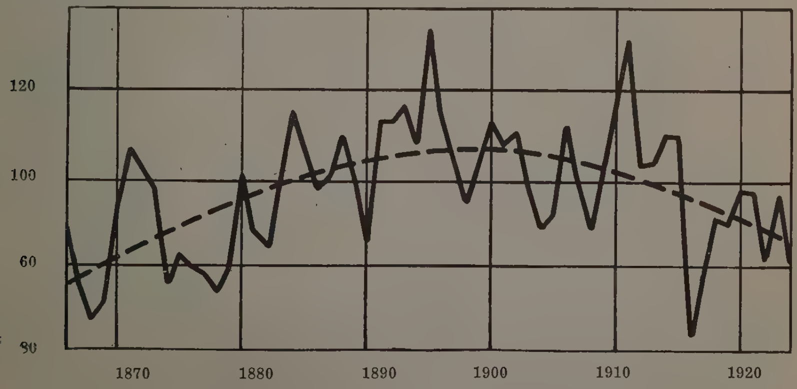

FIG. 1.—PURCHASING POWER OF THE PRICE OF HAY IN NEW YORK CITY

Prior to 1890, the purchasing power of hay rose rapidly and remained relatively high for twenty years. Since 1910 there has been a rapid decline.

Ten years ago, the New York State farm price was two-thirds of the New York City wholesale price. Now it is about one-half. The freight on one ton of hay from Auburn, N. Y., to New York City was $3 per ton, ten years ago. Now it is $5.70. Most of the other transportation and marketing costs have about doubled in the last ten years. A much larger share of the wholesale price is now required to pay marketing costs.

For the past thirty years, the number of hay eating animals in the United States has remained about constant[1]. Horses and sheep have decreased, but cattle have increased. During this period, the production of tame hay increased over 50 percent. The production of wild hay has decreased about 10 percent. As hay became cheaper relative to other feeds, more hay was fed.

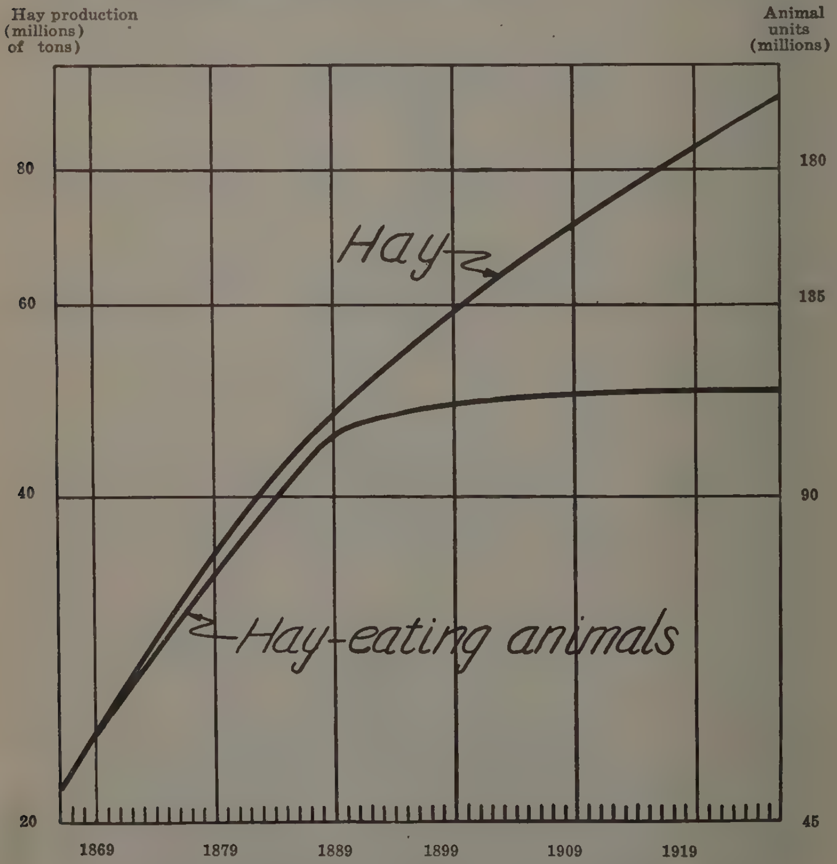

FIG. 2.—TRENDS IN HAY PRODUCTION AND IN NUMBER OF HAY EATING ANIMALS

Until 1889, hay production and the number of hay eating animals increased at about the same rate. Since 1889, hay production has almost doubled while the increase in the total number of animals has been slight.

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[1] The number of hay eating animals was calculated by increasing the number of horses and mules one-half and decreasing the sheep one-seventh and adding to the number of cattle.

G. P. SCOVILLE

FARM ECONOMICS

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No. 34 May 15, 1926

BUSINESS CONDITIONS

Year	Farm Prices New York[1]	Farm Prices United States[1]	Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
1913	97	99	102	96	113	111	....
1914	103	101	100	96	98	81	....
1915	100	101	103	119	74	101	101
1916	116	119	130	152	70	130	114
1917	170	180	181	140	92	124	129
1918	186	206	198	130	110	121	160
1919	206	215	210	160	102	94	185
1920	217	214	231	144	137	109	222
1921	144	119	150	118	125	48	203
1922	134	124	152	146	86	77	197
1923	142	137	157	155	95	112	214
1924	128	140	153	166	77	85	218
1925	148	154	162	221	77	97	223
Sept., 1924	129	137	152	170	53	68	221
October	127	145	155	169	53	77	217
November	134	145	156	178	58	83	218
December	135	147	160	190	67	96	223
Jan., 1925	136	154	163	201	77	110	223
February	136	153	164	203	80	111	220
March	136	157	164	200	82	109	224
April	141	152	159	201	83	102	218
May	150	151	158	209	82	91	221
June	157	153	161	214	81	87	220
July	150	156	163	222	75	88	220
August	156	160	164	228	70	88	222
September	148	152	163	236	69	89	223
October	147	151	161	243	72	92	225
November	165	153	161	248	75	97	226
December	159	152	159	250	80	103	229
Jan., 1926	156	150	159	252	89	106	229
February	154	150	158	255	91	98	225
March	156	146	155	239	89	103	229
April	....	146	154	232	89	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

The Federal Reserve Bank of New York has reduced the discount rate from 4 to 3½ percent. In general, interest rates have declined. This has relieved the situation in the speculative markets. Industrial stocks declined from an index of 255 in February to 239 in March, or a decline of 16 points. The decline in April was 7 points.

Business continues to be active and the full employment at high wages continues.

PRICES OF FARM PRODUCTS

The index number of prices for all farm products in the United States was the same for April as for March. The decline of 14 points since last August appears to be checked.

Prices of New York farm products for March averaged 56 per cent above prewar prices. The very high price of potatoes helped materially in raising the average.

Milk was 47 percent above prewar. Apples have declined in price. Those who stored apples have suffered heavy losses. Hay continues to sell considerably below prewar prices. Sheep and lambs are much below last year. Eggs were very low for the first three months of the year, but April prices did not decline as much as the usual decline before the war.

TABLE 1.—INDEX NUMBERS OF FARM PRICES IN VARIOUS STATES

Date	New York	Ohio	Kentucky	Georgia	Alabama	Texas	Missouri	Iowa	North Dakota	Oregon	Utah	United States
Aug., 1925	156	163	160	177	160	166	149	149	153	151	138	160
Jan., 1926	156	156	161	150	137	138	143	134	162	146	144	150
Feb., 1926	154	156	161	150	139	142	143	133	152	146	141	150
March, 1926	156	154	155	144	135	138	142	130	148	137	138	146
April, 1926	......	......	......	141	133	134	......	126	147	136	133	146

Since the summer of 1925, there has been a very decided decline in farm prices throughout the United States. The decline has been more precipitous in some sections of the country than in others. The decline was greatest in the south and least in the northeast. At the present time, farm prices in Georgia are 36 points below August, 1925; Texas, 32 points; Alabama, 27 points; Iowa, 23 points; Oregon, 15 points; United States, 14 points; Ohio, 9 points; Missouri, 7 points; North Dakota, 6 points; Kentucky and Utah, 5 points. New York State farm prices are at the same level as August, 1925.

G. F. WARREN and F. A. PEARSON

PRICE OF PUREBRED AND COMMON BEEF CATTLE

Prices of Shorthorn cattle sold at public auction as tabulated by J. H. Knox from the *Breeders' Gazette*, are shown in Table 1. They are also shown graphically in Figure 1 in comparison with beef cattle at average farm prices in the United States.

The cycle of purchasing power for beef cattle at farm prices rises for about 8 years and falls for an equal length of time. The prices of purebred Shorthorn cattle lag behind the prices of common cattle, and have a more violent swing. The swing for purebred cattle is more violent than the curves indicate, because, when the cattle are low only the best are sold at public auction. When prices are high, very common purebreds appear in public sales. In 1884, over eleven times as many Shorthorn cattle were sold at auction as were sold in 1896. In 1920 the number of animals sold was 7 times the number in 1924.

The great fluctuations in the prices of beef cattle result in decided losses as well as decided profits for cattle breeders. The extremely violent cycles for purebreds, often lead men to overexpand in periods of high prices and cause failure when prices fall. Such violent alternations in prices cause the financial ruin of great numbers of cattle breeders. The purchasing power of Shorthorn cattle sold at public auction in 1924 was less than one-third of the figure for 1919. If a farmer had bought animals in 1919, paying 75 percent down, he would have had no equity at the prices of 1924.

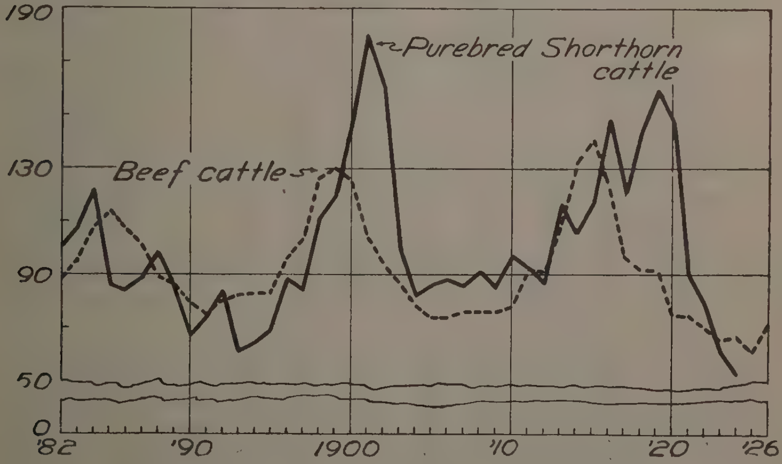

FIGURE 1.—PURCHASING POWER OF SALE PRICES OF PUREBRED SHORTHORN CATTLE AND THE PURCHASING POWER OF FARM PRICES OF BEEF CATTLE IN THE UNITED STATES.

The swings in sale prices of purebred Shorthorn cattle are more violent and lag behind farm prices.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Flaxseed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Potatoes bu.	Sweet Potatoes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	26.8	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1925												
April	103.8	44.7	140.5	76.1	104.1	244.7	3.84	23.7	12.84	202	70.5	196.2
May	107.5	45.4	149.1	75.9	113.3	251.8	3.91	23.0	12.17	251	70.6	189.1
June	111.0	48.3	152.7	76.4	112.3	246.8	4.28	23.0	11.82	280	84.4	170.2
July	104.4	45.3	140.3	73.5	115.7	227.6	3.98	22.3	12.48	290	125.5	188.7
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	5.43	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	5.81	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	5.39	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	5.46	16.6	12.78	......	270.5	180.4

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buckwheat	Flaxseed	Beans	Cotton*	Hay	Onions	Potatoes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1925												
April	167	110	158	118	144	141	175	191	103	159	104	211
May	166	110	166	117	155	143	172	183	100	193	101	193
June	164	116	168	118	148	141	185	181	96	222	122	177
July	151	109	161	120	146	136	173	176	104	238	169	206
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	190
October	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January	120	104	181	97	121	139	241	140	113	......	352	190
February	115	99	174	88	114	127	262	145	108	......	344	195
March	110	97	164	87	116	117	247	133	108	......	337	196
April	106	97	160	85	114	120	249	134	106	......	397	194

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.8	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.28
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	30.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
April	158	88	21.1	24.2	39.7	56.85	6.55	8.80	8.42	12.22	40.8	11.64
May	179	82	22.0	24.8	39.5	57.88	6.48	8.35	7.53	11.99	36.9	10.78
June	201	81	21.6	26.1	38.2	57.79	6.46	8.18	7.04	11.62	35.7	10.82
July	159	81	21.4	27.9	39.2	57.95	6.55	8.65	7.17	11.71	39.4	12.02
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.8	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
April	138	57	183	142	156	115	119	130	166	189	227	154
May	146	57	186	149	160	117	118	127	152	186	207	149
June	164	56	183	156	163	116	119	121	148	184	204	151
July	155	57	180	167	171	118	123	128	157	192	225	166
August	166	57	173	174	169	118	123	128	166	208	214	168
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	158
December	178	54	181	160	163	121	118	133	178	228	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Onions bu.	Pota-toes bu.	Apples bu.	Cabbage cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	73	2.28	15.42	105	69	103	1.03
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.35
1925	123	57	164	89	104	4.13	12.95	184	107	126	2.46
1925											
April	128	60	156	92	104	3.90	12.40	172	49	133	1.60
May	129	59	168	97	109	4.20	12.00	200	48	150	3.60
June	134	60	178	97	106	3.75	12.00	259	50	162	2.70
July	126	59	163	91	122	4.00	12.30	290	86	126	4.30
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85
December	95	50	160	75	87	4.50	14.30	157	218	120	2.47
1926											
January	94	51	169	77	88	6.10	14.30	......	244	136	......
February	95	50	173	76	87	6.30	13.90	......	245	128	......
March	90	50	163	77	85	6.00	14.20	......	245	129	......
April	90	51	158	74	85	5.90	14.10	......	300	130	......

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Pota-toes	Apples	Cab-bage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
1925	165	117	166	116	139	173	84	188	155	155	257
1925											
April	180	122	156	119	142	171	80	164	71	129	155
May	177	118	168	123	145	179	76	180	67	133	308
June	179	118	175	121	138	160	74	204	71	165	211
July	166	116	161	117	145	165	77	221	125	143	172
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385
December	127	106	163	100	121	185	94	191	341	162	380
1926											
January	131	113	171	103	124	261	94	......	381	168	......
February	134	106	173	101	121	269	91	......	355	147	......
March	127	106	163	100	120	260	91	......	360	143	......
April	127	104	158	96	116	259	91	......	435	126	......

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	48	42	2.60	83.36	12.85	7.95	8.62	12.92	58	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	120	25.1	43	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1925												
April	118	25.4	28	46	2.39	73.00	10.90	6.00	6.20	13.40	44	12.60
May	124	26.6	28	46	2.14	77.30	9.70	6.30	5.90	12.40	40	11.90
June	133	26.1	31	45	2.05	77.00	10.10	5.90	6.20	12.60	38	12.10
July	128	26.9	35	46	2.10	80.70	10.60	6.40	6.10	12.50	43	12.30
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	115	23.5	61	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	117	25.6	46	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	127	26.9	38	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	126	26.8	33	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	133	28.5	31	47	......	90.00	11.80	6.50	6.00	12.00	37	12.40

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	93
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	73	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
1925	68	170	152	156	156	137	136	108	149	202	211	154
1925												
April	65	172	133	153	163	129	141	112	136	196	210	161
May	70	179	147	159	180	139	132	112	137	190	200	157
June	74	172	155	161	192	135	128	107	146	190	190	164
July	73	177	159	170	167	143	130	117	147	190	205	164
August	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159
December	65	170	149	156	140	145	139	108	147	209	210	163
1926												
January	68	188	121	150	139	154	143	112	141	199	195	157
February	73	192	119	148	141	155	146	121	154	200	191	160
March	72	189	118	155	147	150	144	119	136	190	186	157
April	73	193	148	157	......	159	152	121	132	176	176	159

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[1] Net pool price of 3.7% milk at Utica, N. Y.

TABLE 1.—NUMBER, PRICE AND PURCHASING POWER OF PUREBRED SHORTHORN CATTLE SOLD AT PUBLIC AUCTION AND THE PRICES OF CATTLE OTHER THAN DAIRY COWS IN THE UNITED STATES.

Year	Shorthorn Cattle				Cattle other than dairy cows		
	Number Head*	Average price per head*	Index number 1910-14 = 100	Purchasing power 1910-14 = 100	U. S. farm price Cattle	Index number 1910-14 = 100	Purchasing power 1910-14 = 100
1882	2,244	$188.94	97	100	$19.89	84	88
1883	2,327	198.94	102	107	21.81	92	96
1884	3,330	212.36	109	122	23.52	99	108
1885	1,930	138.32	71	86	23.25	98	114
1886	2,226	134.65	69	84	21.17	89	107
1887	2,919	144.94	74	89	19.79	84	101
1888	1,275	159.81	82	98	17.79	75	89
1889	1,132	141.42	72	86	17.05	72	86
1890	1,025	109.86	56	67	15.63	66	79
1891	979	119.60	61	74	14.76	62	75
1892	675	126.97	65	84	15.16	64	80
1893	578	93.39	48	61	15.24	64	82
1894	521	87.53	45	64	14.66	62	83
1895	740	96.69	49	69	14.06	59	83
1896	293	116.67	60	88	15.86	67	96
1897	399	111.06	57	84	16.65	70	103
1898	777	153.04	78	110	20.92	88	126
1899	1,606	179.26	92	119	22.79	96	130
1900	2,081	235.58	121	146	24.73	105	125
1901	3,589	286.03	146	180	19.93	84	104
1902	5,170	269.83	138	160	18.76	79	94
1903	4,263	174.41	89	101	18.45	78	87
1904	1,938	139.75	72	82	16.32	69	78
1905	2,171	147.93	76	86	15.15	64	74
1906	3,390	156.80	80	88	15.85	67	74
1907	2,929	161.82	83	86	17.10	72	76
1908	1,944	165.03	84	91	16.89	71	76
1909	2,884	163.05	84	85	17.49	74	76
1910	1,761	196.05	100	97	19.07	81	78
1911	1,816	171.50	88	93	20.54	87	92
1912	1,938	172.65	88	87	21.20	90	91
1913	1,694	231.49	119	117	26.36	111	109
1914	2,370	205.05	105	105	31.13	132	132
1915	2,287	236.33	121	117	33.38	141	141
1916	3,336	379.55	194	149	33.53	142	123
1917	6,307	425.47	218	120	35.88	152	97
1918	6,845	555.88	285	144	40.88	173	92
1919	7,884	658.30	337	160	44.22	187	92
1920	9,164	672.65	344	148	42.18	178	75
1921	4,625	267.02	137	91	30.60	129	75
1922	3,485	236.50	121	80	23.15	98	70
1923	3,630	191.83	98	62	24.81	105	66
1924	1,249	159.17	81	53	24.44	103	67
1925	....	....	......	......	23.72	100	61
1926	....	....	......	......	27.14	115	72

*The prices of Shorthorn cattle were furnished by J. H. Knox, Department of Animal Husbandry, University of Illinois.

G. F. WARREN and F. A. PEARSON

DAY-OF-THE-WEEK VARIATION IN SALES OF MILK AND CREAM IN GREATER NEW YORK

The work reported here is part of a study being carried on co-operatively by the Bureau of Agricultural Economics of the United States Department of Agriculture and the New York State College of Agriculture.

The consumption habits of the people in Greater New York are such as to cause definite daily variations in demand for milk and cream. These day-of-the-week variations are shown for certain products in Table I and Figures 1 to 5.

The least variation is found in the sales of quarts of milk, because these sales are largely for household consumption. Sunday sales are about four per cent higher than the other six days. This is due, in part, to employed members of families eating their noon meal at home on that day.

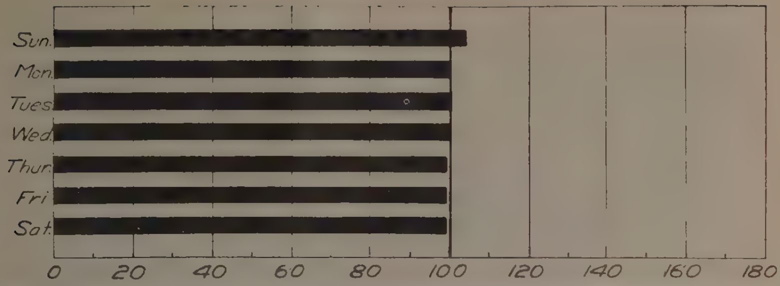

FIG. 1.—DAY-OF-THE-WEEK VARIATION IN THE RETAIL SALES OF QUARTS OF GRADE B MILK IN GREATER NEW YORK.

Sales of this product are largely for household consumption and are little affected by days of the week.

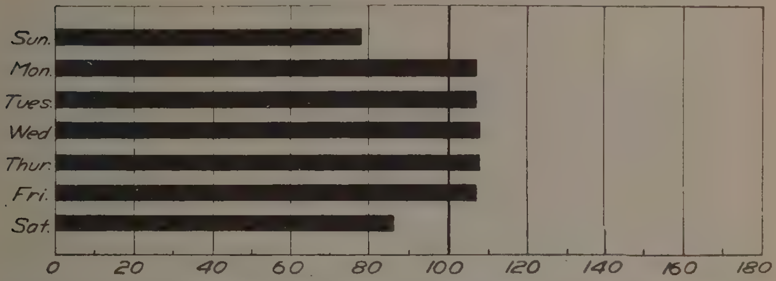

FIG. 2.—DAY-OF-THE-WEEK VARIATION IN THE RETAIL SALES OF PINTS OF GRADE B MILK IN GREATER NEW YORK.

Saturday and Sunday sales are low because most employed people eat their noon meals at home on these days, and the luncheon trade in pints is thereby decreased.

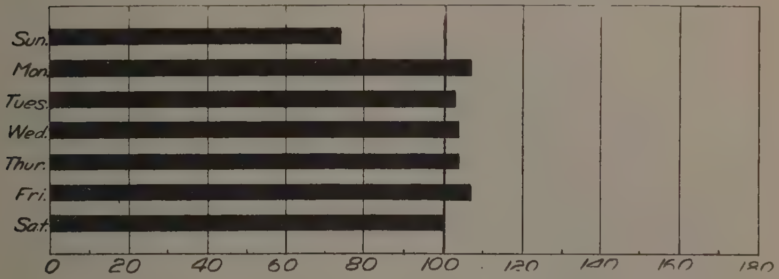

FIG. 3.—DAY-OF-THE-WEEK VARIATION IN THE WHOLESALE SALES OF GRADE B BULK MILK.

The demand for this milk also falls off over the week-end.

A large proportion of the milk sold in pint bottles is consumed by these workers as a luncheon beverage. Consequently, the Sunday holiday and the Saturday half-holiday cause a decided drop in demand.

Bulk milk, which includes milk sold to stores for resale as dipped milk, and milk sold to restaurants, hotels and the like, also falls off on Sunday, and to a less degree, on Saturday.

Sunday is the big day for retail sales of heavy cream, only about half as much being required on other days. Wholesale sales of bulk heavy cream are lower on Sunday, and higher on Saturday than during the rest of the week.

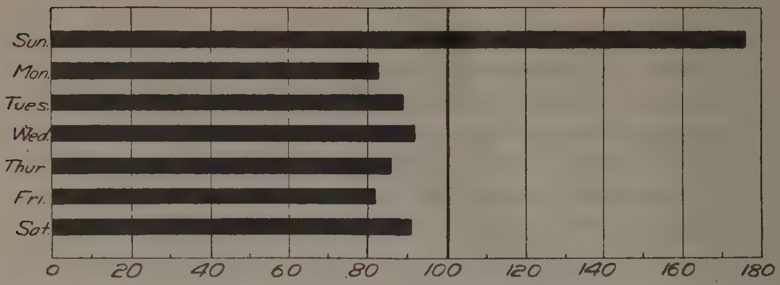

FIG. 4.—DAY-OF-THE-WEEK VARIATION IN THE RETAIL SALES OF HALF PINTS OF HEAVY CREAM IN GREATER NEW YORK.

Sunday sales of cream are very much higher than on other days, especially in districts where cream is considered a luxury.

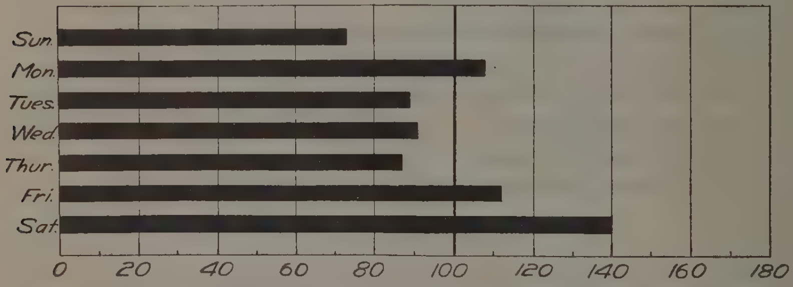

FIG. 5.—DAY-OF-THE-WEEK VARIATION IN THE WHOLESALE SALES OF HEAVY BULK CREAM IN GREATER NEW YORK.

Wholesale sales of cream, unlike retail sales, are lowest on Sunday.

The foregoing discussion is based on the sales of milk and cream for Greater New York as a whole. Various sections of the city and suburbs differ markedly from the average of the entire market. Tables 2 and 3 illustrate this by comparing the day-of-the-week demand for pints of Grade B milk and half pints of heavy cream in three sections of Greater New York; (1) a business and poor residential district, (2) a wealthy residential district, and (3) a middle-class suburban district. Differences are due largely to the economic status of the consumers and to the number of people lunching away from home on week days.

TABLE 1.—DAY-OF-THE-WEEK VARIATION IN THE SALES OF MILK AND CREAM IN GREATER NEW YORK

One-year average of daily sales = 100 per cent.

Day of week	Quarts of Grade B milk	Pints of Grade B milk	Grade B bulk milk	Half pints of heavy cream	Bulk heavy cream
	per cent	per cent	per cent	per cent	per cent
Sunday	103.7	77.6	73.5	176.3	72.9
Monday	99.5	106.8	107.3	83.4	107.7
Tuesday	99.6	106.9	103.1	88.8	88.9
Wednesday	99.8	108.0	104.2	92.3	91.4
Thursday	99.2	108.0	104.3	86.2	86.6
Friday	99.3	107.2	107.2	82.1	112.2
Saturday	98.9	85.5	100.4	90.9	140.3
Average	100.0	100.0	100.0	100.0	100.0

TABLE 2.—DAY-OF-THE-WEEK VARIATION IN THE RETAIL SALES OF HALF PINTS OF HEAVY CREAM

One-year average of daily sales = 100 per cent

Day of week	Business and poor residential district	Wealthy residential district	Middle-class suburban residential district
	per cent	per cent	per cent
Sunday	99.8	177.3	261.9
Monday	102.9	90.1	64.6
Tuesday	102.2	89.3	76.2
Wednesday	102.5	93.2	81.2
Thursday	97.9	83.9	75.2
Friday	96.0	79.8	65.5
Saturday	98.7	86.4	75.4
Average	100.0	100.0	100.0

TABLE 3.—DAY-OF-THE-WEEK VARIATION IN THE RETAIL SALES OF PINTS OF GRADE B MILK

One-year average of daily sales = 100 per cent

Day of week	Business and poor residential district	Wealthy residential district	Middle-class suburban residential district
	per cent	per cent	per cent
Sunday	51.5	93.8	75.8
Monday	116.6	102.5	106.0
Tuesday	116.4	100.5	107.3
Wednesday	117.8	102.3	107.7
Thursday	118.6	100.6	109.3
Friday	117.6	102.3	106.4
Saturday	61.5	98.0	87.5
Average	100.0	100.0	100.0

H. A. ROSS

EFFECT OF PRICE ON THE SALES OF BUTTER ON RETAIL MILK ROUTES IN GREATER NEW YORK

The work reported here is part of a study being carried on co-operatively by the Bureau of Agricultural Economics of the United States Department of Agriculture and the New York State College of Agriculture.

Butter sold on retail milk routes in Greater New York is usually of high quality and retails at a price somewhat above that asked by stores. In spite of the higher price, large quantities are purchased because of the excellent quality and the convenience of regular deliveries. The demand for this butter may or may not be typical of the butter trade in general. The data presented here are based only on route sales, and conclusions are not intended to apply to sales of butter from stores. It appears logical to assume, however, that the demand for high grade butter from stores would be similarly affected.

Butter prices show a decided seasonal variation, being high in winter and low in the spring and summer. In addition, prices may be high or low relative to the seasonal level. Sales of butter on retail routes move inversely with both of these types of price changes. That is, sales tend to fall as prices advance in the winter, and they also tend to fall below the usual winter level when prices are abnormally high. The effect on sales, of a given deviation in price, is quite different in the two cases (Tables 1 and 2, and Figures 1 and 2). During the season of low butter prices, sales are only a little heavier than the average of the year, but during the winter, when prices are high, sales are much below the average. Sales fall at an ever-increasing rate as prices rise with the season. This is probably due both to decreased per capita consumption and to substitution of oleomargarine or lower grades of butter.

On the other hand, changes in sales due to deviations of prices from the normal seasonal price are represented by a straight line. That is, the increase in sales which occurs when the price is ten percent below normal, is just as great as the decrease which occurs when the price is ten percent above normal.

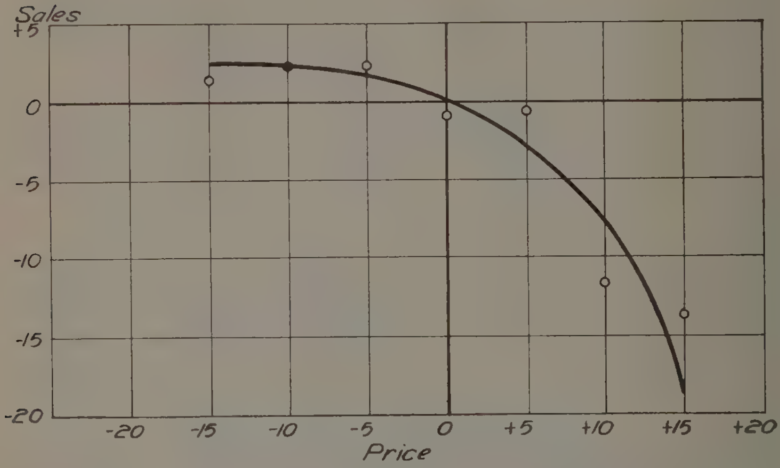

FIG. 1.—RELATION BETWEEN PERCENTAGE DEVIATIONS IN SEASONAL BUTTER PRICES AND PERCENTAGE DEVIATIONS IN SALES OF BUTTER ON RETAIL MILK ROUTES IN GREATER NEW YORK.

High prices cause a decrease in sales greater than the increase caused by low prices. This is probably due to substitution of oleomargarine and lower grades of butter.

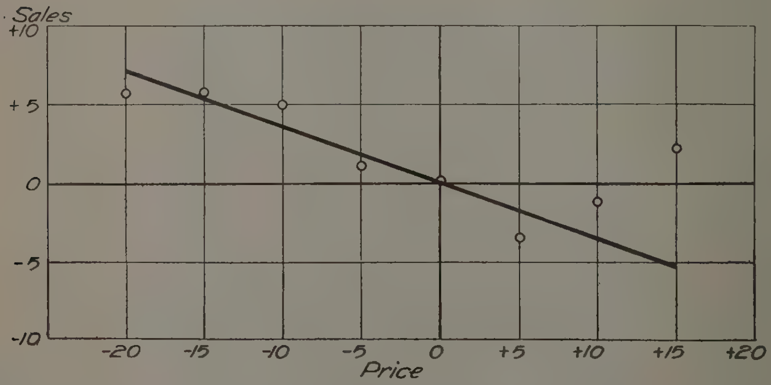

FIG. 2.—RELATION BETWEEN PERCENTAGE DEVIATIONS IN PRICES OF BUTTER RELATIVE TO THE SEASONAL LEVEL AND PERCENTAGE DEVIATIONS IN SALES OF BUTTER ON RETAIL MILK ROUTES IN GREATER NEW YORK.

The increase in sales due to a given decrease in price is just as great as the decrease in sales due to an equivalent increase in price.

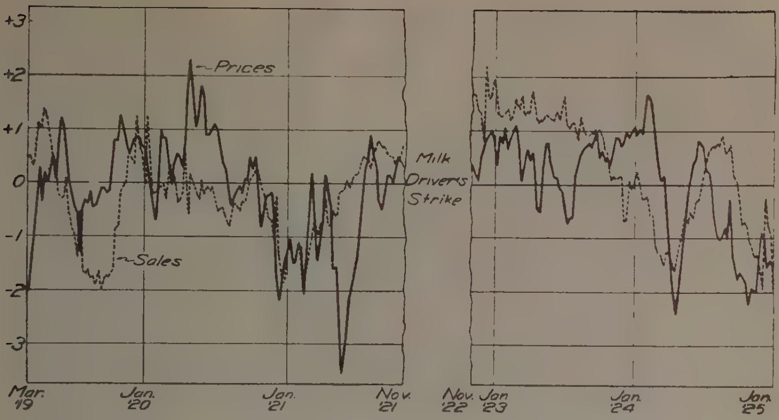

FIG. 3.—VARIATION OF WEEKLY BUTTER PRICES AND SALES FROM THE NORMAL. THE SALES CURVE IS INVERTED FOR EASIER COMPARISON WITH THE PRICE CURVE.

Changes in the per capita consumption of butter and substitution of oleomargarine and lower grades of butter cause sales to move inversely with prices.

TABLE 1.—RELATION BETWEEN SEASONAL VARIATIONS IN BUTTER PRICES AND THE AMOUNT SOLD ON RETAIL MILK ROUTES IN GREATER NEW YORK

Percentage deviation from the average for the year	
Price	Sales
—15	+2.6
—10	+2.2
— 5	+1.6
0	0
+ 5	—2.8
+10	—7.5
+15	—18.2

TABLE 2.—RELATION BETWEEN DEVIATIONS IN BUTTER PRICES FROM THE NORMAL AND THE AMOUNT SOLD ON RETAIL MILK ROUTES IN GREATER NEW YORK

Percentage deviation from the normal	
Price	Sales
—15	+5.4
—10	+3.6
— 5	+1.8
0	0
+ 5	—1.8
+10	—3.6
+15	—5.4

The certainty of butter sales moving inversely with the second type of price change is not as great as in the case of seasonal price changes.[1] This indicates that there are other important factors besides price which affect sales. Figure 3, however, shows that although there are numerous minor deviations, sales tend to move inversely with the general trend of butter prices.

H. A. Ross

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[1] Correlations of butter prices and sales are:
— 0.760 ± 0.039 for seasonal changes only,
— 0.383 ± 0.036 with seasonal changes eliminated.

COMMERCIAL FEED CHANGES IN NEW YORK STATE

Figures from the Department of Farms and Markets show a decided increase in the total number of feeds registered with that Department since 1904 when they took over the feed control work from the Agricultural Experiment Station. Although these figures do not indicate quantities, they do give some indication of changes in types of feeds used by farmers in New York State.

Table I shows the registration of some of the more important feeds used. Corn gluten feed and linseed oil meal are both closely controlled by a few manufacturers so that the small number of feeds registered and the fact that there has been no increase does not indicate the actual increase in amount used. Prior to 1920, wheat feeds not mixed with other feed required no registration, which would explain part of the decided increase in these ingredients. The dairy, poultry and other manufactured rations have increased more than the straight ingredients.

Part of the increase in registration figures may also be attributed to more efficient inspection service.

TABLE 1.—CONCENTRATED COMMERCIAL FEEDS REGISTERED FOR SALE IN NEW YORK STATE.

Years	1905	1910	1915	1920	1925*
Total number of concentrated feeds	193	458	854	1254	1973
Mixed ingredients					
Number of brands of dairy rations	13	57	91	203	284
Stock feeds	15	49	63	101	77
Number of brands of poultry and chick feeds	17	31	112	147	325
Number of brands of mash for poultry	6	13	62	95	272
Unmixed ingredients					
Corn gluten feed	10	13	12	15	11
Wheat bran	0	1	58	77	154
Wheat middlings	0	2	53	99	157
Cottonseed oil meal	5	18	43	55	28
Linseed oil meal	10	13	14	17	12
Meat and fish scrap	12	30	20	19	33
Meat and bone meal	8	6	25	37	52

*1925 figures January 1 to April 1, with exception of total number.

The figures for dairy and stock feeds of over 9 percent protein content show that more retail feed stores are mixing their own brand than formerly. Table 2 shows an increase from 1920 to 1925 of 191 percent in the number of retail stores compounding feeds, while the increase was only 16 percent for the wholesalers. In computing these figures, the feeds registered between January 1st and April 1st only were used, as those beyond that date were not available in 1920. As few feeds are registered after that date, the results would not be affected materially.

TABLE 2.—NUMBER OF FIRMS LICENSING FOR SALE IN NEW YORK STATE ONE OR MORE COMPOUNDED PROPRIETARY DAIRY RATIONS AND STOCK FEEDS OVER 9 PER CENT PROTEIN JANUARY 1—APRIL 1.

Year	Retail stores	Manufacturers	Total
1920	34	62	96
1925	99	72	171
Per cent increase	191.2	16.1	78.1

Table 3 shows that the number of feeds manufactured by the retailers increased more than the number mixed by manufacturers. Here again, the number of feeds mixed is no indication of the quantity as the volume put out by one wholesaler would be equal to that of many retailers. It serves, however, to show a tendency on the part of retailers to compound their own feeds.

TABLE 3.—NUMBER OF COMPOUNDED PROPRIETARY DAIRY RATIONS AND STOCK FEEDS OVER 9 PER CENT PROTEIN LICENSED FOR SALE IN NEW YORK STATE, JANUARY 1—APRIL 1.

Year	Retail Stores	Manufacturers	Total
1920	35	168	203
1925	112	207	319
Per cent increase	220	23.2	57.1

The 9-15 percent protein dairy rations and stock feeds have decreased from 36 percent of the total in 1920 to 16 percent in 1925, while the 16-22 percent protein have increased from 38 percent to 53 percent of the total. Those above 23 percent protein increased from 25 percent to 29 percent.

TABLE 4.—COMPOUNDED PROPRIETARY DAIRY RATIONS AND STOCK FEEDS OVER 9 PER CENT PROTEIN LICENSED FOR SALE IN NEW YORK STATE, JANUARY 1-APRIL 1, 1920 AND 1925.

	By Retail Stores		By Manufacturers		All	
	1920	1925	1920	1925	1920	1925
Total number	35	112	168	207	203	319
Per cent protein			per cent			
9—15	22.9	7.2	39.3	21.9	36.5	16.6
16—22	48.5	66.9	36.3	46.3	38.4	53.6
23—up	28.6	25.9	24.4	31.8	25.1	29.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Data New York State Department of Farms and Markets Bulletins 131 (1920) and 177 (1925).

These figures seem to indicate the tendency of farmers to use a higher protein feed than five years ago.

E. A. PERREGAUX

INDEX NUMBERS OF VARIABILITY

Farms vary in their yields per acre and the amount of work done per man, per horse and the like. The degree of variation in a given region is different for the different items. Index numbers of variability of various items are shown in Table I. For comparison a few measurements, such as the variability in height of men, are given in the table. The index of variability in the heights of men is 3.83. Compared with this, all the measures of farming are very variable. The percent of the land in corn in this region is more standardized than most other factors. It is about six times as variable as the heights of men. The amount of work done per horse is also fairly well standardized. The amount of work done per man, the number of men per farm, and crop yields are somewhat more variable.

Compared with these, the more complicated factors such as farm receipts and farm expenses are more variable. Labor income depends on a great number of factors, such as, acres, yields per acre, work done per horse and per man, economy in expenditures and the like. Since so many factors are involved in the amount the farmer receives for his work, labor income is highly variable.

The profits above the amount necessary for the usual interest

TABLE 1.—VARIABILITY OF CERTAIN FACTORS ON 680 DAIRY FARMS IN KANE AND McHENRY COUNTIES, ILLINOIS, 1912[1]

Height of men[2]	3.8
Length of forearm[3]	3.9
Breadth of mouth[3]	5.2
Length of upper arm[3]	6.5
Height of forehead[3]	10.4
Percent of the productive man work units spent on crops	16.4
Percent of milk produced in the winter months	17.2
Wages per man per year with board	19.9
Percent of and in corn	21.8
Value of land per acre	25.1
Age of operator	25.2
Productive horse work units per horse	25.3
Value of milk produced per cow	25.9
Taxes per dollar of capital	27.9
Productive man work units per man	29.5
Number of men	31.4
Animal units per farm	31.2
Productive man work units per man spent on stock	33.3
Average value per horse	33.6
Animal units per man	33.9
Yield of oats per acre	34.0
Crop acres per man	34.7
Number horses per farm	35.0
Crop acres per animal unit	35.6
Percent of land in pasture	36.6
Average value of a dairy cow	36.7
Percent of crop area in oats	37.0
Acres per animal unit	37.1
Dairy cattle units per man	37.5
Yield of corn per acre	38.3
Size of farm	42.5
Volume of milk per acre	43.0
Tillable area	44.5
Number in family on the farm	45.2
Number of animal units except horses	45.3
Number in family over 16 years of age	46.0
Value of buildings per animal unit	47.2
Yield of timothy hay	48.7
Number of hens	50.8
Percent of crop area in hay	51.3
Net livestock receipts	52.9
Value of buildings except houses	56.2
Farm receipts	56.2
Bushels of corn raised per animal unit	57.6
Farm expenses	59.1
Acres of pasture per animal unit	61.2
Value of machinery per crop acre	67.0
Pasture, acres	68.9
Farm income	75.2
Feed purchased per animal unit	77.7
Value of machinery per farm	79.0
Children on the farm under 16 years of age	91.2
Number of men hired by the year	104.4
Total value unpaid labor	109.3
Percent receipts from crops	118.3
Percent female labor is of all unpaid labor	118.7
Crop receipts	147.7
Value of woman unpaid labor	166.9
Labor income	190.7
Value of boy unpaid labor	243.8
Value of man unpaid labor	288.7
Profits above interest on capital and farm wages for the farmer's time (Entrepreneural profits)	456.4
Girl unpaid labor	654.5

[1] The data on which these calculations are based were collected by the Department of Dairy Husbandry, University of Illinois. The coefficients of variability were secured by dividing the standard deviations by the means and multiplying by 100.

[2] Yule, G. U. An Introduction to the Theory of Statistics, p. 141, 1922.

[3] Davenport, E. Principles of Breeding, p. 434, 1907.

rates on capital and pay for the time of the farmer are still more variable. This variability is an expression of the fact that there is a great variation in success with which men combine the innumerable factors that affect profits. They also suggest one reason why so many persons fail in any business. The successful business man is dealing with a multitude of highly variable factors. If he has the knowledge and skill he may obtain very good results, or may fail even though he does a large number of things well. It is a balance of *all the factors of production* rather than any one factor that is important for success.

Agriculture is more highly standardized than most business enterprises. It is probable that the profits in most businesses are even more variable than the profits in farming. Any one who studies these facts must have considerable respect for the business ability of a farmer or other business men who remains in business over a series of years.

In the biological field, coefficients of variability above 30 are not common. In the economic field, such a low variability is very uncommon. This suggests one reason why there are so many more persons who can feed a cow, or fertilize a crop properly, than there are who can run a farm successfully. It also suggests the difficulties involved in economic studies and the importance of them.

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FARM ECONOMICS

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No. 35 June, 1926

BUSINESS CONDITIONS:—PRE-WAR = 100

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	113	111	....
1914	103	101	100	96	98	81	....
1915	100	101	103	119	74	101	101
1916	116	119	130	152	70	130	114
1917	170	180	181	140	92	124	129
1918	186	206	198	130	110	121	160
1919	206	215	210	160	102	94	185
1920	217	214	231	144	137	109	222
1921	144	119	150	118	125	48	203
1922	134	124	152	146	86	77	197
1923	142	137	157	155	95	112	214
1924	128	140	153	166	77	85	218
1925	147	154	162	221	77	97	223
Jan., 1925	136	154	163	201	77	110	223
February	136	153	164	203	80	111	220
March	136	157	164	200	82	109	224
April	141	152	159	201	83	102	218
May	150	151	158	209	82	91	221
June	157	153	161	214	81	87	220
July	150	156	163	222	75	88	220
August	156	160	164	228	70	88	222
September	148	152	163	236	69	89	223
October	147	151	161	243	72	92	225
November	165	153	161	248	75	97	226
December	159	152	159	250	80	103	229
Jan., 1926	156	150	159	252	89	106	229
February	154	150	158	255	91	98	225
March	156	146	155	239	89	103	229
April	169	146	154	232	89	106	227
May	173	146	155	233	86	105	226
June	....	146	156	242	84	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

City business is phenomenally active. City building continues at a high rate, but not quite so high as last year. Production in basic industries is active. Railroad traffic is very heavy. Wages of industrial labors continue high. Money is cheap. Prices of industrial stocks declined rapidly in February and March, but have been fairly stable since then.

FARM PRICES

The index number of farm prices have been stationary for the last four months. During June the index number of the prices of 11 farm products rose, 11 fell, one was stationary. The price-index numbers of crops were mostly somewhat lower. Potatoes declined 78 points. The index numbers of the price of livestock products, except one, were somewhat higher than in May. Hogs rose 13 points.

The farm price of corn is only 1 per cent above prewar, while oats are 7 per cent below prewar and barley 17 per cent below. These figures can be better understood when compared with the earnings of factory workers which are 126 per cent above prewar.

Thus far, the season has been unfavorable for farming. Unless the weather is favorable, total crop production will be low. The June report of the United States Department of Agriculture indicates that hay and pasture are in a poorer condition than in many years. It also indicates that the store of moisture in the soil is very deficient. This deficiency is likely to be felt by other crops unless very favorable weather develops soon.

The average index numbers of prices of New York farm products for March, April and May for the past six years, were as follows:

1921	134	1924	128
1922	136	1925	142
1923	141	1926	166

Prices this year are considerably better than last year. The poor crop of beans and potatoes is in part responsible for the higher prices. Western New York had a very bad year last year owing to the failure of potatoes and beans.

The index number of the net pool price of 3.7 per cent milk at Utica, New York, in May of this year, was 184 per cent of prewar. The average index numbers of milk prices for the first five months of the calendar year for the past five years are as follows:

1922	119	1924	125
1923	149	1925	154
1926	155		

PRESENT FEED PRICES

A number of tables of prices of feeds are published in this number. These tables should be retained by those who purchase feeds, in order that they may have data for making future comparisons. It is expected that feed prices hereafter will be published monthly. Current prices can then be readily compared with prewar prices.

Compared with prewar prices, feed has been cheap this spring. It is also cheap, when compared with the prices of animal products. An index of the cost of the concentrates in a dairy ration for May, stood at 127. The League price of milk was 184. The index number of the price of "Nearby hennery white eggs, average extras" for June was 151. The poultry ration index averaged 128.

At average prices for the past 16 years, of 100 pounds of live hogs at farm prices would buy 10.9 bushels of corn*. The lowest ratio during the 16 years was in July, 1924, when a hundred pounds of hogs was worth 6.7 bushels of corn. In less than two years this situation was completely reversed, and in March and April, 1926, the highest ratio for the entire period was reached, when one hundred pounds of hogs would exchange for 17.5 bushels of corn.

When feed is cheap relative to animal products, there is a tendency to use it more liberally. Thus far, this season has been unfavorable for the growth of feed. For June 1st the United States Department of Agriculture reports that the pastures were poorer than on any previous June 1st in 30 years. The hay crop was in a less favorable condition than on any previous June 1st in 15 years or more. When the 10 year average condition of all tame hay is represented by 87, the condition on June 1st of this year is represented by 76.

It is of course improbable that feeds will continue cheap compared with livestock. The usual tendency to feed more liberally and to increase the livestock, will undoubtedly bring a swing to the opposite extreme. The date when this will occur cannot be foretold, but it seems desirable for a farmer to keep good stocks of feed on hand when feed is cheap relative to livestock.

TABLE I.—INDEX NUMBERS AND PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK, 1926.

	Corn Meal	Gluten Feed	White Hominy	Ground Oats	Bran	Standard Middlings	Linseed Oil Meal 34% protein	Cotton-seed Meal 43% protein	Meat Scrap 50%	Dairy Ration	Poultry Ration
January	$39.05	$45.30	$35.54	$39.33	$34.94	$34.77	$52.32	$43.25	$81.38	....	....
February	37.27	42.26	32.70	37.61	32.33	32.33	49.95	42.45	82.30	....	....
March	35.61	38.71	30.88	36.82	30.40	30.29	47.38	41.46	79.47	....	....
April	35.71	37.65	31.50	37.53	33.31	32.61	52.58	41.44	64.00	....	....
May	34.54	37.65	30.56	36.26	31.38	29.75	51.03	41.50	64.00	....	....
June	34.59	38.65	30.45	36.60	29.04	29.14	49.72	41.60	....	....	....
Index Numbers											
January	142	150	128	127	134	133	151	132	157	141	146
February	136	138	118	118	123	123	144	132	158	132	142
March	133	132	116	116	116	116	142	130	152	127	136
April	129	135	120	116	129	127	157	127	122	130	132
May	120	138	112	111	124	116	154	127	122	127	128
June	121	140	111	110	125	117	154	127	......	127	128

In June, middlings were selling at 17 per cent above prewar prices; corn meal, 21 per cent; cottonseed meal at 27 per cent and linseed oil meal at 54 per cent above prewar prices. There was a large cotton crop last year. Since it is not probable that there will be so large a cotton crop this year, and since the consumption of dairy feeds is high, cottonseed meal, gluten feed, and other feeds appear to be cheap enough to purchase for future needs.

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*Crops and Markets, United States Department of Agriculture, Vol. 3, Sup. No. 5, p. 145, May, 1926.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	26.8	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1925												
June	111.0	48.3	152.7	76.4	112.3	246.8	4.28	23.0	11.82	280	84.4	170.2
July	104.4	45.3	140.3	73.5	115.7	227.6	3.98	22.3	12.48	290	125.5	188.7
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	5.43	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	5.81	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	51.6	81.7	202.0	5.38	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	5.46	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	5.51	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	5.26	16.1	12.98	......	190.1	198.8

Index Numbers (corresponding months, 1910-14—100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1925												
June	164	116	168	118	148	141	185	181	96	222	122	177
July	151	109	161	120	146	136	173	176	104	238	169	206
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	190
October	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January	120	104	181	97	121	139	241	140	113	......	352	190
February	115	99	174	88	114	127	262	145	108	......	344	195
March	110	97	164	87	116	117	247	133	108	......	337	196
April	106	97	160	85	114	120	249	134	106	......	397	194
May	104	96	158	85	116	117	243	127	107	......	352	197
June	101	93	153	83	119	116	228	127	105	......	274	207

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
June	201	81	21.6	26.1	38.2	57.79	6.46	8.18	7.04	11.62	35.7	10.82
July	159	81	21.4	27.9	39.2	57.95	6.55	8.65	7.17	11.71	39.4	12.02
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.8	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
June	164	56	183	156	163	116	119	121	148	184	204	151
July	155	57	180	167	171	118	123	128	157	192	225	166
August	166	57	173	174	169	118	123	128	166	208	214	163
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	153
December	178	54	181	160	163	121	118	133	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Beans bu.	Hay ton	Onions bu.	Potatoes bu.	Apples bu.	Cabbage cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	75	2.28	15.42	105	69	103	1.03
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	118	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.85
1925	123	57	164	89	104	4.13	12.95	184	107	126	2.46
1925											
June	134	60	178	97	106	3.75	12.00	259	50	162	2.70
July	126	59	163	91	122	4.00	12.30	290	86	126	4.80
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85
December	95	50	160	75	87	4.50	14.30	157	218	120	2.47
1926											
January	94	51	169	77	88	6.10	14.30	......	244	136	......
February	95	50	173	76	87	6.30	13.90	......	245	128	......
March	90	50	163	77	85	6.00	14.20	......	245	129	......
April	90	51	158	74	85	5.90	14.10	......	300	130	......
May	89	53	158	76	89	6.00	14.50	......	290	124	......
June	88	50	157	77	94	6.00	15.00	......	225	135	......

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Potatoes	Apples	Cabbage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	98	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	118	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
1925	164	119	166	116	139	174	84	188	151	152	234
1925											
June	179	118	175	121	138	160	74	204	71	165	211
July	166	116	161	117	145	165	77	221	125	143	172
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385
December	127	106	163	100	121	185	94	191	341	162	380
1926											
January	131	113	171	103	124	261	94	......	381	168	......
February	134	106	173	101	121	269	91	......	355	147	......
March	127	106	163	100	120	260	91	......	360	143	......
April	127	104	158	96	116	259	91	......	435	126	......
May	122	106	158	96	119	255	92	......	403	110	......
June	117	98	154	96	122	256	92	......	321	138	......

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses	Chickens	Eggs	Butter	Milk[1]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
	head	lb.	doz.	lb.	cwt.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	120	25.1	43	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1925												
June	133	26.1	31	45	2.05	77.00	10.10	5.90	6.20	12.60	38	12.10
July	128	26.9	35	46	2.10	80.70	10.60	6.40	6.10	12.50	43	12.30
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	115	23.5	61	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	117	25.6	46	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	127	26.9	38	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	126	26.8	33	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	133	28.5	31	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	133	28.4	29	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	133	28.1	30	46	......	92.00	11.50	6.20	5.70	13.40	34	12.60

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	98
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	78	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
1925	68	170	154	155	153	137	136	108	149	202	210	154
1925												
June	74	172	155	161	192	135	128	107	146	190	190	164
July	73	177	159	170	167	143	130	117	147	190	205	164
August	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159
December	65	170	149	156	140	145	139	108	147	209	210	163
1926												
January	68	188	121	150	139	154	143	112	141	199	195	157
February	73	192	119	148	141	155	146	121	154	200	191	160
March	72	189	118	155	147	150	144	119	136	190	186	157
May	75	191	153	159	184	165	140	103	148	188	175	158
June	74	185	150	164	......	162	146	113	134	202	170	170

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[1] Net pool price of 3.7% milk at Utica, N. Y.

PRICES OF FEED

Prices of fourteen feeds used by New York State farmers are given in Tables 1 to 14. These prices are in car lots delivered at Utica, New York, which is approximately the center of the dairy industry of the state.

Five-year averages are given at the top of each table and yearly averages at the right. Details of sources are given on page 485. Freight rates are given in Table 19. By deducting the freight from Buffalo to Utica, the prices for Buffalo may be obtained.

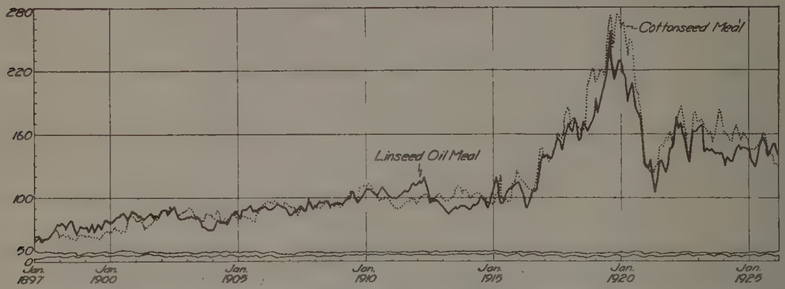

FIGURE 1.—INDEX NUMBERS OF THE PRICES OF LINSEED OIL MEAL AND COTTONSEED MEAL, 1897-1926

During the five years, 1920-25, the price of cottonseed meal has been relatively higher than linseed oil meal. For the past 12 months, linseed oil meal has been cheap in terms of cottonseed meal

INDEX NUMBERS OF FEED PRICES

Index numbers of the prices of twelve feeds are given in Table 15. In each case the prices for the corresponding month, 1910-14, is called 100.

For the year 1925, when compared with prewar, oats was the cheapest feed, and corn meal was the highest. The index number for oats was 127; for corn meal, 164; for bran, 134; and for middlings, 135.

During 1919 and 1920, feeds were over twice as high as they were before the war. In 1921 and 1922, they dropped to about one-fourth above prewar. For the last three years, 1923-25, they have been about forty-five per cent above prewar prices. Last fall, feeds dropped in price and now average only about one-fourth above prewar.

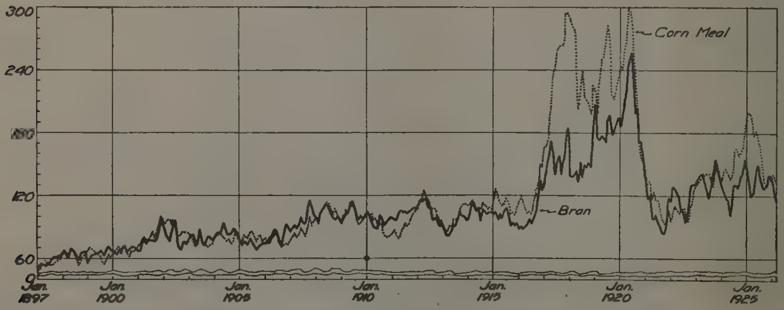

FIGURE 2.—INDEX NUMBERS OF THE PRICES OF CORN MEAL AND BRAN, 1897-1926

During 1917-19, the price of corn meal was relatively much higher than bran. During 1924 and 1925, corn meal was again very high. In May, 1926, they were practically at the same level

LONG TIME RELATIONSHIPS IN PRICES OF DIFFERENT KINDS OF FEED

A comparison of each feed with the average of 7 feeds is given in Table I. For example, for the 5 years, 1905-09, a ton of gluten would buy 1.04 tons of average feed. For the last five years it would buy 1.06 tons.

For the five years 1905-09, a ton of bran would buy 0.85 of a ton of average feed. For the past 5 years it would buy only 0.77 of a ton.

The most striking thing shown in Table A is the relative stability of comparative feeds over a series of years. If the war period is omitted, corn and flour middlings have changed very little when compared with average feed prices. White hominy has declined somewhat. Standard middlings have declined more. Bran and oats have declined most. When compared with average feed, bran has declined 9 per cent in 15 years. This is the most striking changed relationship shown in Table A.

TABLE A.—TONS OF AVERAGE FEED THAT A TON OF EACH FEED WOULD BUY*

5 Years	Corn Meal	Gluten Feed	Whole Hominy	Ground Oats	Bran	Standard Middlings	Red Dog	Flour Middlings	Wheat-mixed Feed	Linseed Oil Meal	Cottonseed Meal	Meat Scrap
1905-09	0.98	1.04	0.97	......	0.85	0.86	1.03	0.96	0.90	1.17	1.13	......
1910-14	1.00	0.99	0.97	1.10	0.85	0.89	1.05	1.00	0.91	1.16	1.12	1.81
1915-19	1.18	1.01	1.09	1.05	0.73	0.79	0.99	......	......	1.08	1.12	1.71
1921-25	0.99	1.06	0.92	0.96	0.77	0.79	......	0.92	......	1.21	1.27	2.04

*The prices of corn meal, gluten feed, white hominy, bran, standard middlings, linseed oil meal, and cottonseed meal were averaged and each feed compared with this average.

The high protein feeds have risen in comparative price. In 15 years the buying power of gluten and oil meal in terms of other feeds have risen 2 and 3 per cent respectively. Cottonseed meal was stationary for 15 years, but for the past 5 years has risen 12 per cent. The cotton crops for the past 5 years have averaged low. It is too soon to tell what part of this change will be permanent. There seems, however, to be an unmistakable tendency for protein feeds to average higher than formerly when compared with other feeds. While the change is not extremely large, it suggests that the demand for protein feeds for dairy cows is increasing faster than the supply and suggests the increasing importance of raising more clover or alfalfa hay on dairy farms.

There seems to be a tendency for the coarse bulky feeds, bran and oats, to be worth less than formerly and for the concentrated starch feeds, corn meal and flour middlings, to occupy an intermediate position between the other two groups. Omitting the war period, the five-year averages are as follows:

	Average for corn meal, hominy, and flour middlings	Average for bran, ground oats, and standard middlings	Average for gluten feed, linseed oil meal, and cottonseed meal
1905-09	0.97	----	111
1910-14	0.99	95	109
1921-25	0.94	84	118

SHORT TIME RELATIONSHIPS IN THE PRICE OF DIFFERENT KINDS OF FEEDS

While the long-time tendency seems to be comparatively stable, as shown above, the relationship between prices of different feeds at any given time are very erratic. For an entire calendar year, they are subject to decided fluctuations. For example, for the year 1925, a ton of oil meal would, on the average, purchase a ton of cottonseed meal. For the previous calendar year it would have purchased only 0.92 of a ton.

One of the striking points in Table 15 is the decided fluctuations in comparative prices. For example, in April of last year, the index number for linseed oil meal was 129 and for cottonseed meal it was 146. In May of this year linseed oil meal is 154 and cottonseed meal 127. These two feeds are both high in protein and may replace one another to a considerable extent. Yet at prices of a year ago, a ton of oil meal cost as much as 1903 pounds of cottonseed meal, whereas in May of this year, a ton of oil meal costs as much as 2,459 pounds of the cottonseed meal.

During May, 1925, a ton of corn meal would buy 2,983 pounds of bran. This year it would buy only 2,201 pounds of bran.

In May of last year a ton of bran would buy 1,938 pounds of middlings. This year a ton of bran would buy 2,110 pounds of middlings.

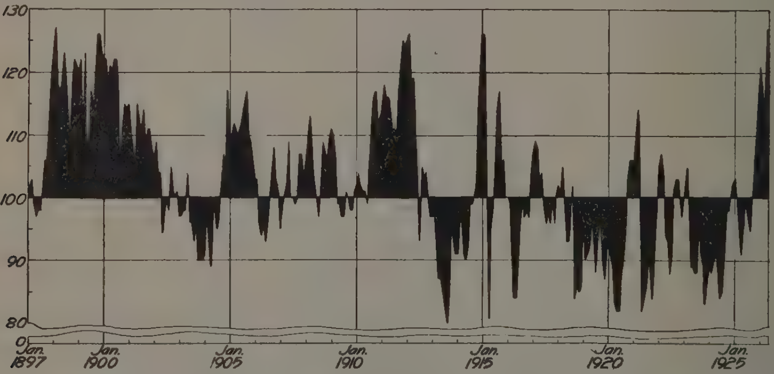

FIGURE 3.—RATIO OF LINSEED OIL MEAL AND COTTONSEED MEAL, 1897-1926

There are very wide fluctuations in the prices of different feeds. From 1920 to 1924, inclusive, cottonseed meal was high in terms of oil meal, while in 1926 it was lower

These striking differences are constantly occurring. They are strikingly brought out by studying the index numbers of prices of feeds as shown in Table 15. Since such large differences constantly occur, it is obvious that there are great opportunities for the individual farmer to cheapen his rations by constantly making adjustments to feed prices.

For example, if one is feeding poultry and is buying all his feed he may at times wish to increase the wheat by-products in the mash and decrease the wheat grain, at the same time he increases the corn in the grain and decreases the corn meal in the mash. Similarly, at times he may find it desirable to feed his cows as much cottonseed meal as he can safely feed, and at other times may wish to feed none at all. Farmers are constantly making such striking changes. For instance, in 1912, in Delaware County, at the prices paid by farmers for feed a ton of cottonseed meal would buy 2,045 pounds of gluten. In that year, 20 per cent of the tons of purchased feed was cottonseed meal, and 22 per cent was gluten. In the following year, a ton of cottonseed meal would buy 2,230 pounds of gluten. The farmers reduced their purchases of cottonseed to 12 per cent and increased the purchases of gluten to 26 per cent.[1]

SEASONAL VARIATION IN PRICES

When the yearly average price is called 100, the prices for the different months of the year are given in Table 16. For 17 years before the war, the price of corn was lowest in February and March and highest in September. The February price was 6 per cent below the yearly average price and the September price was 6 per cent above.

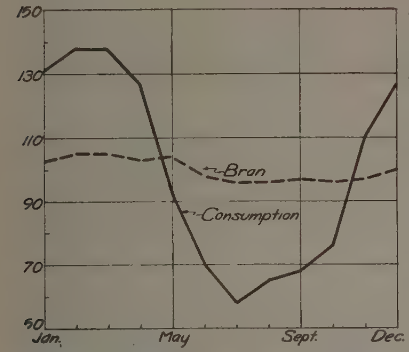

FIGURE 4.—INDEX NUMBERS OF SEASONAL VARIATION IN THE PRICES OF BRAN AND FARM CONSUMPTION OF ALL MILL FEEDS

The consumption of mill feeds, which fluctuate more violently than the price of bran, is lowest in the summer and highest in the winter

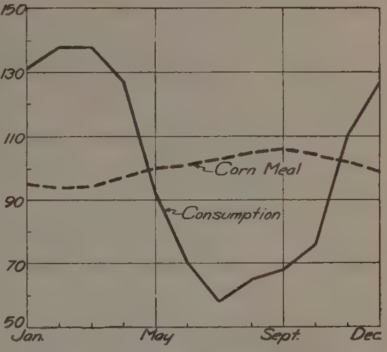

FIGURE 5.—INDEX NUMBERS OF SEASONAL VARIATION IN THE PRICE OF CORN MEAL AND THE CONSUMPTION OF ALL MILL FEEDS

The price of corn meal moves inversely with the farm consumption of all mill feeds

Gluten feed was on the average, highest in January and February and lowest in May. The January price was 5 per cent above the yearly average price and the May price 5 per cent below.

Bran was highest in February and March and lowest in August, September and October, being 5 per cent above the yearly average in the high months and 4 per cent below in the low months.

Cottonseed meal was highest in August and September and lowest in the winter. It was 2 per cent above the yearly average in the high months and one per cent below in the low months.

Seasonal variations in prices for different periods are shown in Table 16. Apparently, no definite changes in seasonal variation have occurred. So far as can be seen from the data in Table 16, the period 1910-14 was about normal in regard to seasonal variation. In future issues, feed prices will be compared with their own prewar prices for the same months for the period 1910-14. Judging by the data in Table 16 such a comparison is reliable.

Although the variations from year to year are decided, the average fluctuations for some feeds are more than enough to pay interest on the money invested. If the feed will keep and one has money available, it is desirable to give some consideration to seasonal variations in making purchases. For example, as an average over a series of years, $96 worth of bran purchased in the summer would be worth $105 the following winter, or an advance of over 9 per cent. Of course many other considerations must be given attention, but seasonal variation is one of the factors to be considered.

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[1] Thomson, A. L. Cost of Producing Milk on 174 Farms in Delaware County, New York, Cornell University Agricultural Experiment Station Bulletin 364, p. 124 and 136, October, 1915.

TABLE B.—PERCENTAGE OF THE YEARS WHEN THE LOWEST PRICE OF THE CALENDAR YEAR CAME IN THE MONTH INDICATED.

Feed	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Corn meal	31	17	10	4	10	....	....	....	....	....	7	21
Gluten	4	....	8	13	42	4	8	4	....	4	13	....
Hominy	13	17	8	25	4	8	....	....	....	8	4	13
Ground oats	17	5	5	....	....	....	5	11	17	6	17	17
Bran	14	....	....	4	7	14	17	10	10	10	10	4
Middlings	14	....	14	7	7	....	10	6	....	14	14	14
Red dog	11	11	21	18	7	7	....	....	3	7	4	11
Flour midds.	29	3	4	14	7	....	14	....	....	4	7	18
Wheat-mixed feed	17	....	4	8	9	8	17	8	9	4	8	8
Linseed oil meal	14	7	3	20	20	14	4	....	7	....	7	4
Cottonseed meal	17	3	17	3	14	7	7	3	4	4	7	14

Table B gives the percentage of times that the lowest price occurred in each month. The lowest price for corn meal, came between November and June, and in 69 per cent of the time it came in the three winter months.

REASONS FOR SEASONAL VARIATIONS

Supply and demand govern prices. The season of the high supply of any feed may or may not be the season of high demand. The high demand may come at the time when the supply is short so that both forces tend to make prices high or they may come at opposite times and neutralize each other.

The consumption of mill feeds in the winter is more than twice as much as the consumption during the summer.

The curves showing the consumption of mill feeds compared with the prices of bran are shown in Figure 4. The seasonal variation in the price of bran lags one month behind the seasonal variation in the consumption of feed. In this case, it appears that the demand side is the dominating factor in the price of bran. The price is high in the season when milling is heavy. The one month delay is doubtless explained by the tendency of prices to lag behind demand. Some persons sell on the basis of cost, some on replacement cost, while others compromise. This tends to raise the price when the market is rising, but not so rapidly as the market rises. This results in a lag in the average market price. The same lag of one month is shown between the price of corn and corn meal, Figure 7.

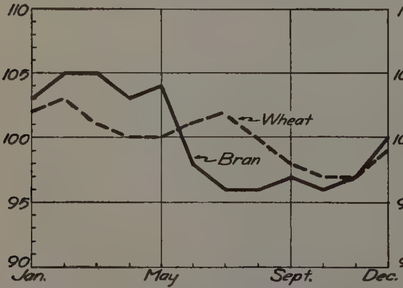

FIGURE 6.—INDEX NUMBERS OF SEASONAL VARIATION IN THE PRICE OF WHEAT AND THE PRICE OF BRAN
The price of bran fluctuates more violently than does the price of wheat

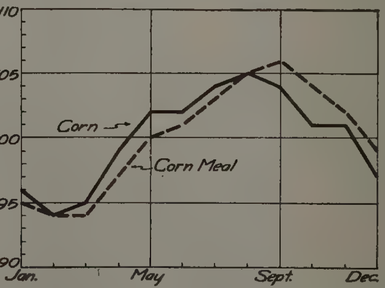

FIGURE 7.—INDEX NUMBERS OF THE SEASONAL VARIATION IN THE PRICE OF CORN MEAL AND CORN
The price of corn meal has about the same seasonal variation as the price of corn, except that corn meal fluctuates less and lags behind the price of corn

Seasonal variations in wheat prices are somewhat different from the variations in prices of bran. Bran drops in the spring but wheat rises, Figure 6.

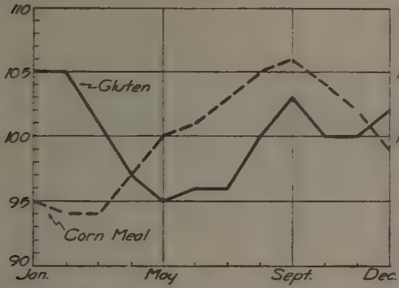

FIGURE 8.—INDEX NUMBERS OF THE SEASONAL VARIATION IN THE PRICES OF GLUTEN FEED AND CORN MEAL

Corn meal is low during the winter months and high during the summer. Gluten feed is cheapest in the early summer and highest in the winter

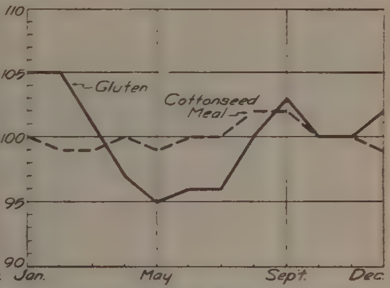

FIGURE 9.—INDEX NUMBERS OF THE SEASONAL VARIATION IN THE PRICES OF GLUTEN FEED AND COTTONSEED MEAL

The price of gluten feed fluctuates more than the price of cottonseed meal

Prices of gluten feed vary with demand rather than with the prices of corn. Gluten prices ordinarily are highest in the winter.

Cottonseed meal is somewhat less variable than gluten and is highest in the season of scarcity, whereas gluten is highest during the period of greatest demand.

The seasonal variations in the price of corn meal and the consumption of feed are shown in Figure 5. In this case, the high price comes at the season of low consumption. The supply of corn evidently is the dominating factor in the seasonal variation in the price of corn meal.

The seasonal variations in hominy prices follow corn fairly closely. Prices of red dog and flour middlings tend to follow corn in their seasonal variations.

PRICES OF MILK AND FEED

An index of the prices of an average dairy ration is given in Table 17. The ration consists of:

Ground oats	15 per cent	Wheat-mixed feed	5 per cent
Corn meal	10 per cent	Gluten feed	30 per cent
Hominy	5 per cent	Cottonseed meal	10 per cent
Wheat bran	15 per cent	Linseed oil meal	5 per cent
Wheat middlings	5 per cent		

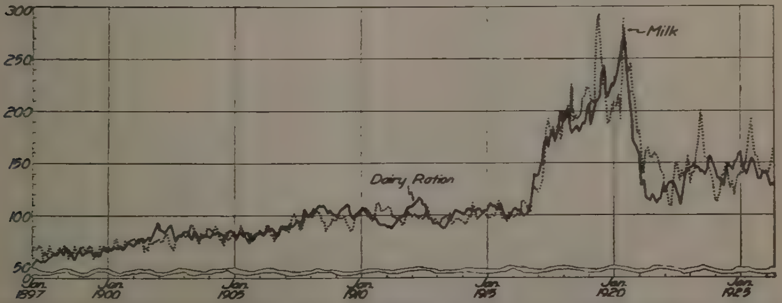

FIGURE 10.—INDEX NUMBERS OF THE PRICES OF MILK AT UTICA, NEW YORK, AND COST OF A DAIRY RATION, 1897-1926

During the past six months, the index number of the price of feed was somewhat lower than the price of milk

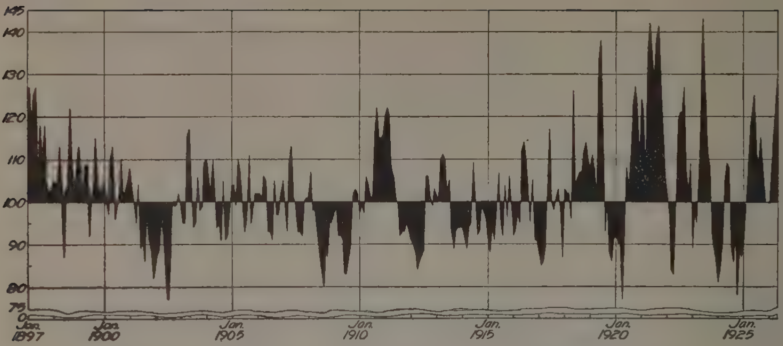

FIGURE 11.—RATIO OF PRICES OF MILK AND FEED, 1897-1926

Over a long series of years, prices of milk and feed go together, but for any given year they may be out of relationship

An index prepared in this way represents approximately the average cost of a dairy ration, as indicated by the footnote on page 486.

When the prewar cost of such a ration is represented by 100, the average cost for the years 1919 and 1920 were both above 200. The peak came in June of 1920, with an index of 268. Prices declined precipitously until an index of 111 was reached 15 months later, September, 1921. For the three years, 1923 to 1925, the index number averaged 43 to 46 per cent above prewar prices. Prices declined very rapidly this spring. In January the index number stood at 141 and in March it was 127, and in May was 127.

Ratios of milk prices to feed prices are shown in Figure 11. For the year 1924, the ratio of prices was very unfavorable. This year, feed is low relative to milk prices. The increased demand for feed and drought are tending to raise feed prices.

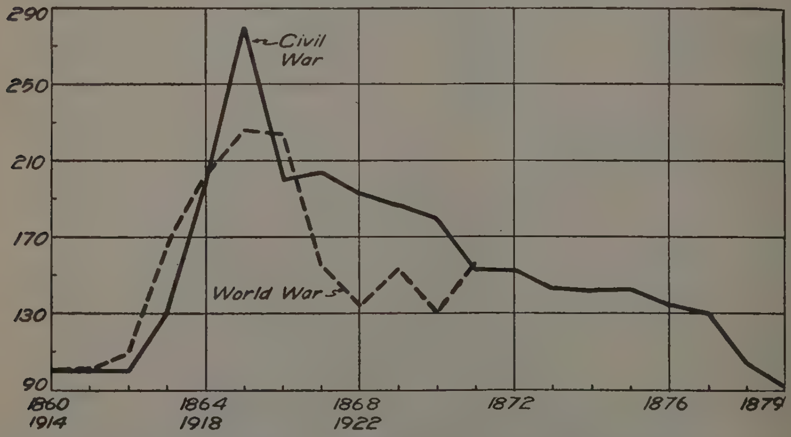

FIGURE 12.—INDEX NUMBERS OF PRICES PAID TO FARMERS FOR MILK DURING THE CIVIL WAR AND DURING THE WORLD WAR PERIODS

The price of milk did not rise so high during the Civil War as during the World War. The decline in the price of milk following the Civil War was very gradual

PRICES OF MILK

Prices of milk per quart prior to 1897, furnished by the *Milk Reporter*, are given in Table 21. Apparently these are intended to represent prices paid all producers shipping to the New York market. Prices for later years are given in Table 22. For the few years when prices were available from both sources, those in Table 21 were about 5 per cent higher than those in Table 22.

In 1865, the index number of the farm price of milk was 280, when 1860 is called 100. This was a greater rise than occurred during the World War period. The decline in price was also less rapid than that which followed the World War.

The prices given in Table 22, since 1913, are for grade B milk. Prior to 1914, grades of milk were not definitely established. Borden's prices were used. Prices for May, 1921, and later, are the Dairymen's League Pool prices with certificates of indebtedness counted as cash. Since April, 1913, differentials have been paid depending on the butterfat. Prices here given are for milk testing 3.7 per cent butterfat. All prices prior to May, 1921, were taken from the *Milk Reporter*.

PRICES OF EGGS AND FEED

An index number of the prices of an average poultry ration is given in Table 18. The ration consists of:

Meat scrap	10 per cent	Cracked corn	25 per cent
Standard middlings	10 per cent	Wheat	25 per cent
Bran	10 per cent	Oats	5 per cent
Corn meal	10 per cent	Barley	5 per cent

An index number prepared in this way represents approximately the costs of a poultry ration. (See footnote page 486.)

The average farm price of eggs for New York State for the year 1925 was 152 when prewar is considered 100. The poultry ration index averaged 143. In January, February, and March of this year, eggs were low in price relative to feed. In April and May, feed has been low relative to eggs. The ratio of the price of eggs to the price of feed is shown in Figure 14.

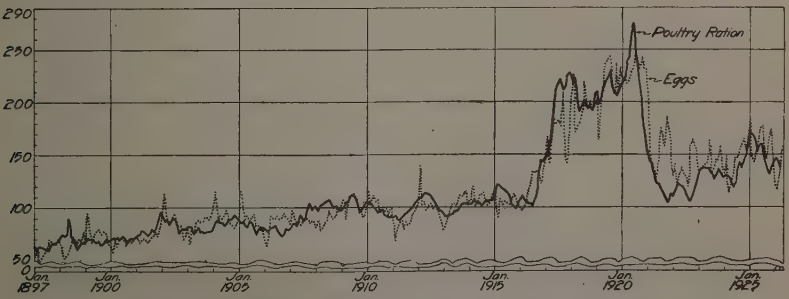

FIGURE 13.—INDEX NUMBERS OF THE PRICES OF WESTERN FRESH EGGS IN NEW YORK STATE AND THE COST OF A POULTRY RATION, 1897-1926

Feed was high compared with eggs in 1917 and 1918. It has been cheap compared with eggs most of the time since 1920

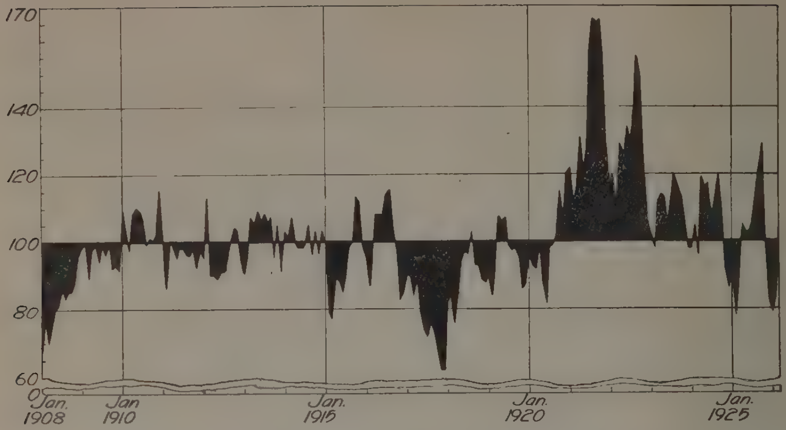

FIGURE 14.—RATIO OF THE PRICE OF NEARBY HENNERY WHITE EGGS AVERAGE EXTRAS AND THE COST OF A POULTRY RATION, 1908-1926

There are decided variations in the ratio of feed prices to egg prices. The ratio is usually favorable for the poultryman when the ratio is over the 100 line

FREIGHT RATES AND FEED PRICES

Freight rates on feed are given in Tables 19 and 20. The rates from Buffalo, New York, to Utica, New York, may be subtracted from the prices in Tables 1 to 14 to obtain the Buffalo prices.

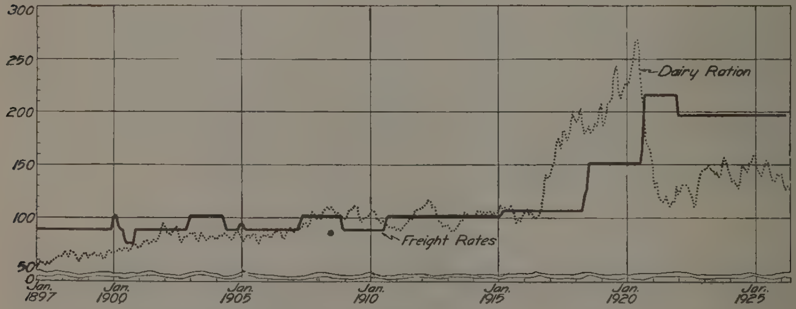

FIGURE 15.—INDEX NUMBERS OF THE PRICES OF A DAIRY RATION AND THE FREIGHT RATE ON FEED FROM BUFFALO, NEW YORK, TO UTICA, NEW YORK

In the World War period, freight rates were low and feed was high. Now, freight rates are higher than feed

An index number of freight rates on feed from Buffalo to Utica, New York, is shown in Figure 15. Freight rates in May were 97 per cent above prewar rates. The prices of the dairy ration average is 127 per cent above prewar prices. Before 1920, prices of feed rose faster than freight rates. Since that time, prices have fallen and freight rates have risen, so that freight makes an abnormal percentage of the retail price. This makes the percentage difference between feed prices in the East and in the West greater than usual.

TABLE 1.—PRICES OF CORN MEAL IN SACKS IN STRAIGHT CARS AT UTICA, N. Y., 1897-1926

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
97-13	22.65	22.50	22.52	23.38	24.26	24.56	25.07	25.65	26.04	25.55	25.13	24.29	24.30
00-04	21.95	21.72	21.62	22.44	22.67	23.01	23.75	24.23	24.28	23.87	24.24	23.49	23.11
05-09	23.49	23.29	24.33	25.14	26.53	27.55	27.83	27.86	28.15	28.08	26.69	25.68	26.22
10-14	27.56	27.39	26.71	27.78	28.68	28.53	29.50	31.57	32.68	30.82	30.03	28.89	29.18
21-25	38.82	38.92	38.65	37.76	39.05	39.02	40.92	41.52	40.21	40.07	39.87	39.73	39.55
1897	14.65	14.00	14.19	14.88	15.28	15.53	15.97	16.97	18.09	17.60	17.45	17.28	15.99
1898	17.58	18.05	17.35	17.58	19.67	19.38	18.21	18.22	17.48	17.63	18.65	18.63	18.20
1899	18.43	19.07	18.55	18.67	18.53	18.25	18.25	17.80	18.01	18.41	18.88	17.73	18.38
1900	18.08	18.09	18.37	20.05	19.78	20.20	21.10	20.30	20.29	20.67	20.17	19.56	19.72
1901	19.78	20.24	20.62	22.21	22.28	21.56	23.88	26.75	26.25	26.60	27.99	28.80	23.91
1902	26.59	25.67	25.82	26.61	26.41	27.39	27.95	25.91	26.80	26.35	25.41	24.32	26.27
1903	23.16	22.35	20.91	20.10	21.85	23.23	23.00	23.66	23.80	21.91	21.98	21.50	22.29
1904	22.15	22.26	22.38	23.23	23.03	22.65	22.80	24.53	24.28	23.80	25.65	23.25	23.33
1905	21.13	20.90	22.22	22.15	22.95	24.61	25.40	25.32	24.90	25.15	24.50	21.78	23.42
1906	21.71	20.52	20.98	22.69	23.21	24.15	24.10	23.59	23.28	22.65	22.09	21.15	22.51
1907	21.25	22.21	22.34	22.23	23.90	25.41	24.95	25.60	29.00	30.42	27.60	27.85	25.23
1908	27.10	26.23	27.73	29.35	31.04	32.30	33.04	33.85	33.40	33.29	30.23	28.15	30.48
1909	26.28	26.59	28.40	29.28	31.53	31.30	31.65	30.96	30.15	28.90	29.03	29.45	29.46
1910	28.78	27.78	27.25	26.65	28.09	25.24	27.46	29.10	26.88	24.86	24.00	23.76	26.65
1911	23.25	23.91	21.73	22.00	24.76	25.48	27.44	28.50	30.06	30.66	31.30	30.40	26.62
1912	30.77	31.24	30.86	34.66	34.20	33.23	32.40	33.79	35.10	31.20	28.73	27.60	31.98
1913	24.40	23.41	23.10	25.10	25.85	27.60	28.60	31.23	34.98	34.30	33.60	31.70	28.66
1914	30.60	30.60	30.60	30.50	30.50	31.10	31.60	35.23	36.40	33.08	32.53	31.00	31.98
1915	31.98	34.60	32.68	31.68	31.68	31.98	34.57	35.93	33.48	31.62	30.31	31.42	32.66
1916	31.39	32.36	29.88	29.81	29.68	29.68	30.24	36.33	40.37	40.53	44.78	42.81	34.82
1917	45.72	45.81	46.93	57.06	67.88	69.40	76.40	83.10	85.90	81.30	88.23	84.90	69.39
1918	79.65	77.65	74.80	66.65	58.15	62.00	70.53	67.50	69.28	63.84	59.83	65.28	67.93
1919	61.15	54.65	61.10	69.53	72.85	76.09	83.53	84.40	70.65	65.65	67.10	67.40	69.51
1920	67.10	66.03	69.78	74.28	85.40	83.78	75.50	75.65	66.53	51.00	46.52	44.00	67.13
1921	38.73	35.90	35.90	32.30	35.53	33.15	34.05	33.34	32.09	28.85	28.71	30.60	33.26
1922	26.58	28.70	29.35	29.51	29.83	30.38	31.80	31.91	31.28	33.51	34.63	36.58	31.17
1923	35.88	36.62	36.43	38.75	39.13	40.33	41.55	42.01	42.28	47.83	43.77	38.33	40.24
1924	37.88	39.23	39.08	39.12	38.68	40.48	47.89	52.26	52.10	50.26	50.67	54.26	45.16
1925	55.01	54.13	52.51	49.12	52.08	50.78	49.32	48.07	43.31	39.92	41.59	38.89	47.89
1926	39.05	37.27	35.61	35.71	34.54	34.59	....	....	....	....	....	....	....

TABLE 2.—PRICES OF GLUTEN FEED IN SACKS IN STRAIGHT CARS AT UTICA, N. Y., 1902-1926

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
02-14	28.66	28.51	27.70	26.56	25.97	26.39	26.41	27.47	28.24	27.72	27.64	28.32	27.47
05-09	28.25	27.98	27.73	27.27	26.38	27.02	27.23	27.64	28.21	28.31	28.46	28.93	27.78
10-14	30.30	30.65	29.31	27.89	27.36	27.59	26.36	29.47	30.51	28.78	28.41	29.54	28.85
21-25	46.64	43.03	42.89	39.84	38.70	40.14	40.77	42.17	43.42	43.87	43.77	45.79	42.59
1902	27.43	25.48	24.48	23.55	23.23	23.60	23.87	23.85	24.01	24.30	24.35	24.79	24.41
1903	27.23	26.85	26.85	23.05	22.79	23.60	23.75	25.46	25.58	25.71	25.68	25.84	25.20
1904	25.20	25.20	23.58	22.89	22.88	22.84	22.71	22.28	23.90	24.90	24.90	25.19	23.87
1905	25.00	24.90	25.75	25.78	23.46	24.58	24.48	24.35	24.80	25.00	25.72	26.40	25.02
1906	26.90	25.95	24.05	24.40	24.15	24.53	24.76	25.35	25.35	25.72	26.53	27.65	25.45
1907	28.15	27.78	27.65	26.63	26.59	27.25	27.46	28.18	29.96	30.65	31.01	30.98	28.52
1908	30.60	30.60	30.60	30.60	30.60	30.45	30.85	31.45	31.45	31.20	30.45	30.53	30.78
1909	30.60	30.68	30.60	28.93	27.10	28.30	28.60	28.85	29.50	28.98	28.60	29.10	29.15
1910	31.43	33.13	32.45	29.13	28.68	27.67	25.95	27.64	28.39	26.16	25.25	25.98	28.49
1911	25.70	25.93	24.99	24.58	24.90	25.28	25.40	29.35	29.85	30.73	30.35	32.48	27.46
1912	33.36	33.55	31.35	30.85	29.34	29.83	29.98	30.10	28.75	26.91	26.74	27.80	29.88
1913	29.62	29.33	26.78	24.58	24.90	25.65	26.33	27.66	32.35	30.40	29.30	30.47	28.11
1914	31.40	31.30	31.00	30.30	28.98	29.50	29.16	32.60	33.20	29.69	30.41	30.98	30.71
1915	31.68	32.50	28.94	28.42	28.06	28.68	28.84	28.86	28.88	27.88	27.13	28.83	29.06
1916	31.81	32.38	30.40	30.88	27.52	27.72	27.89	29.62	31.33	33.33	39.39	41.26	31.96
1917	39.98	41.36	42.86	45.72	48.35	44.89	47.36	56.65	54.53	54.20	54.43	56.99	48.94
1918	58.03	58.97	59.04	56.64	53.97	53.42	53.40	56.60	59.40	59.40	57.80	61.09	57.31
1919	63.89	60.64	58.54	61.52	62.34	63.90	67.75	82.00	76.83	68.60	69.93	71.00	67.25
1920	73.40	73.80	75.40	76.90	77.60	77.90	69.43	68.67	66.71	52.48	53.76	60.22	68.86
1921	51.52	43.33	44.83	39.63	33.71	33.88	36.53	38.33	37.53	39.42	36.27	44.53	39.96
1922	40.95	38.75	39.55	39.38	39.55	38.12	36.07	36.32	37.29	39.79	42.83	46.13	39.56
1923	48.57	49.05	49.05	43.45	43.18	43.55	44.05	46.71	49.57	51.23	50.23	47.47	47.18
1924	45.80	42.30	40.80	37.38	36.88	41.30	43.58	44.97	47.20	46.53	45.53	46.17	43.20
1925	46.35	41.70	40.20	39.37	40.20	43.87	43.64	45.53	45.53	42.37	43.97	44.63	43.11
1926	45.30	42.26	38.71	37.65	37.65	38.65	....	....	....	....	....	....	....

TABLE 3.—PRICES OF BRAN IN SACKS IN STRAIGHT CARS AT UTICA, N. Y., 1897-1926
(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
'97-13	21.14	21.54	21.59	21.25	21.53	20.32	20.00	20.20	20.32	20.27	20.58	21.25	20.53
'00-04	19.86	20.11	20.17	19.66	19.87	19.44	18.78	18.44	18.54	18.61	18.96	19.97	19.37
'05-09	22.30	22.68	23.47	23.33	24.03	22.67	21.50	21.64	21.92	22.23	22.53	22.87	22.60
10-14	26.00	26.27	26.15	25.75	25.24	23.17	23.45	24.75	24.79	23.62	23.92	24.79	24.83
21-25	34.53	33.30	32.60	30.88	29.98	27.76	27.45	28.35	29.08	29.76	31.06	33.69	30.70
1897	12.52	13.75	14.50	13.85	13.37	13.09	13.00	14.50	15.00	14.20	14.80	15.28	13.99
1898	16.97	17.77	16.35	15.34	17.53	15.67	15.19	15.38	14.26	15.33	15.75	16.56	16.01
1899	14.40	15.81	16.60	16.59	16.05	14.96	15.69	15.79	15.71	16.53	17.05	16.90	16.01
1900	17.10	17.35	16.69	17.42	16.40	16.43	16.45	16.55	16.95	16.90	16.90	17.10	16.85
1901	17.35	17.86	19.54	19.98	18.80	18.10	18.10	19.18	19.04	18.55	20.60	24.23	19.28
1902	23.93	21.73	20.73	19.70	21.91	21.48	21.40	17.85	16.91	17.85	18.10	18.39	20.00
1903	20.23	21.48	21.73	19.45	18.48	20.35	18.45	17.98	18.95	19.04	18.91	19.40	19.54
1904	20.68	22.14	22.16	21.74	23.78	20.84	19.50	20.65	20.84	20.70	20.30	20.75	21.17
1905	20.19	19.20	19.99	19.09	18.60	18.21	17.65	17.50	16.96	16.98	17.65	18.34	18.36
1906	19.45	19.72	19.61	20.96	21.96	20.10	18.46	18.21	18.40	20.40	22.15	22.21	20.14
1907	22.01	23.40	23.90	22.91	23.30	23.04	22.10	23.04	26.23	27.15	25.73	25.10	23.99
1908	25.70	24.62	27.16	27.10	27.91	25.54	24.40	25.04	24.25	22.98	23.79	23.85	25.20
1909	24.15	26.46	26.70	26.59	28.40	26.47	24.90	24.40	23.75	23.65	23.34	24.85	25.31
1910	27.21	26.78	25.30	23.03	22.15	20.95	23.59	24.20	22.60	22.10	22.90	24.66	23.79
1911	25.48	25.36	25.00	26.73	26.40	24.10	24.35	25.45	25.73	25.35	25.90	26.60	25.54
1912	28.10	30.10	29.85	29.98	29.50	24.93	25.40	23.91	23.98	23.10	21.98	22.60	26.12
1913	23.90	22.66	21.23	20.80	21.48	21.10	21.30	23.73	25.85	23.70	23.98	24.35	22.84
1914	25.29	26.43	29.35	28.20	26.66	24.79	22.60	26.48	25.80	23.85	24.85	25.76	25.84
1915	26.84	27.35	25.28	26.31	24.43	24.28	25.43	25.06	22.58	22.26	21.87	23.28	24.58
1916	22.99	23.68	22.98	23.18	23.28	22.37	21.87	24.28	25.74	28.24	31.98	31.06	25.14
1917	33.88	38.68	41.06	44.31	40.98	32.40	35.90	39.10	34.65	36.20	38.53	45.58	38.44
1918	36.15	36.19	36.38	36.96	33.55	35.29	32.09	36.89	36.56	35.83	35.41	44.51	36.32
1919	54.15	46.28	45.30	45.78	44.10	39.28	44.65	48.90	44.15	42.78	44.90	48.40	45.72
1920	48.40	50.65	54.53	56.90	61.80	59.65	54.70	49.15	50.28	40.30	40.90	36.00	50.27
1921	35.73	30.65	31.28	25.30	24.78	23.53	22.20	22.28	20.78	19.78	22.78	29.30	25.70
1922	29.98	33.77	33.33	31.42	29.92	24.83	24.50	23.32	25.58	29.54	31.42	32.40	29.17
1923	34.29	35.92	36.58	36.20	34.88	28.75	27.67	31.21	35.72	36.08	33.75	33.79	33.74
1924	33.71	32.42	30.75	29.79	25.42	27.11	30.83	32.38	31.75	32.92	33.79	38.48	31.61
1925	38.94	33.75	31.04	31.67	34.92	34.59	32.07	32.57	31.57	30.47	33.54	34.50	33.30
1926	34.94	32.33	30.40	33.31	29.04	....	....	....	....	....	....	....	....

TABLE 4.—PRICES OF WHEAT-MIXED FEED IN SACKS IN STRAIGHT CARS AT UTICA, NEW YORK, 1901-1926
(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
01-13	24.30	24.63	24.63	24.09	23.88	23.49	23.24	23.47	23.61	23.57	23.46	24.06	23.87
05-09	24.00	24.67	24.93	24.69	24.31	23.97	23.25	23.47	23.65	23.82	23.63	23.88	23.87
10-14	26.97	27.11	27.10	26.59	26.20	25.39	25.45	26.35	26.79	26.16	26.05	26.46	26.39
21-25	35.86	35.10	34.92	32.54	33.23	31.51	30.97	31.83	32.01	32.18	33.74	35.38	33.27
1900	....	....	....	....	....	17.95	17.64	18.25	18.33	18.50	18.21	18.35	....
1901	18.60	18.99	20.04	20.48	19.60	19.10	19.10	20.27	20.41	20.05	21.85	25.60	20.34
1902	26.18	23.35	22.48	21.50	22.73	22.66	22.85	20.04	18.91	19.45	19.73	19.98	21.70
1903	21.73	22.60	22.73	20.25	19.10	21.35	21.00	20.48	21.00	21.10	20.35	20.35	21.00
1904	21.37	23.10	23.35	22.80	24.03	22.46	21.35	22.65	22.40	21.90	21.40	22.50	22.44
1905	22.25	21.40	21.70	20.78	19.60	19.40	18.32	18.40	18.15	17.90	18.32	19.40	19.64
1906	20.90	21.40	21.75	22.53	21.40	21.15	20.40	20.34	20.40	21.40	23.03	23.59	21.52
1907	23.10	24.15	24.40	24.16	23.60	23.60	23.65	24.41	27.48	29.00	27.48	27.10	25.18
1908	27.60	27.60	27.66	27.70	27.91	27.16	26.10	27.79	26.60	25.60	25.04	25.40	26.85
1909	26.15	28.78	29.15	28.28	29.03	28.55	27.78	26.40	25.60	25.21	24.28	23.90	26.93
1910	27.67	27.37	26.74	24.76	24.28	23.28	24.88	25.37	24.79	24.25	24.51	25.89	25.32
1911	26.36	26.18	26.22	26.81	26.58	25.59	25.62	26.58	27.44	27.76	27.82	28.08	26.75
1912	28.96	30.22	30.34	30.16	29.40	27.37	27.63	26.78	26.82	26.27	25.23	24.67	27.82
1913	24.99	24.61	23.69	22.94	23.16	23.72	23.49	25.54	26.99	26.51	25.92	26.32	24.82
1914	26.87	27.16	28.50	28.29	27.58	26.99	25.65	27.49	27.91	26.01	26.78	27.34	27.21
1915	29.03	29.18	27.55	28.26	27.79	27.69	28.44	28.56	26.30	26.07	25.54	25.82	27.52
1916	25.89	26.31	25.84	25.68	25.75	25.20	25.06	26.60	27.94	30.82	34.96	35.51	27.96
1917	36.60	39.37	39.69	45.25	44.22	40.11	42.51	45.13	40.26	41.26	43.79	47.92	42.18
1918	....	49.40	....	....	....	....	....	....	....	....	....	55.58	....
1919	55.67	46.67	46.37	46.93	49.11	48.51	51.21	55.28	54.99	51.59	49.82	51.11	50.61
1920	50.59	52.91	58.34	58.66	62.94	63.32	61.81	59.08	55.53	46.44	42.46	39.28	54.28
1921	37.85	32.80	33.21	29.05	29.00	26.89	26.03	26.76	25.55	24.00	26.44	31.49	29.09
1922	31.87	35.83	36.04	33.04	33.55	28.54	26.50	25.93	26.77	30.20	33.63	33.83	31.31
1923	35.05	36.42	37.33	36.45	36.13	33.69	32.78	34.20	36.16	36.13	34.91	34.09	35.28
1924	34.53	34.09	33.25	30.16	29.51	29.81	33.16	35.21	34.97	34.87	36.76	40.46	33.90
1925	39.98	36.38	34.79	34.00	37.94	38.60	36.39	37.05	36.58	35.68	36.94	37.05	36.78
1926	37.33	35.80	33.06	34.88	33.69	31.94	....	....	....	....	....	....	....

TABLE 5.—PRICES OF STANDARD MIDDLINGS IN SACKS IN STRAIGHT CARS AT UTICA, NEW YORK, 1897-1926

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
97-13	21.08	21.45	21.50	21.32	21.59	20.96	21.02	21.89	21.79	21.34	21.01	21.20	21.35
00-04	20.04	19.94	20.03	19.59	19.92	19.74	19.68	20.88	20.13	19.66	19.35	20.05	19.92
05-09	22.07	22.72	23.27	23.26	23.77	23.08	22.36	22.83	22.87	22.71	22.52	22.69	22.85
10-14	26.13	26.23	26.05	25.76	25.56	24.88	25.89	27.36	27.14	25.71	25.21	25.42	25.94
21-25	34.72	33.48	32.85	30.74	30.45	29.76	29.87	30.68	30.28	31.00	31.90	33.59	31.61
1897	12.63	13.31	14.49	14.39	12.87	12.56	12.55	14.14	14.79	14.32	14.12	13.44	13.63
1898	14.38	16.12	16.27	16.31	18.93	16.35	15.19	15.85	15.63	15.77	15.36	15.11	15.94
1899	15.51	16.83	16.42	16.67	15.84	15.40	15.66	15.10	15.89	16.54	17.38	17.00	16.19
1900	17.13	16.92	16.42	17.05	16.85	16.62	16.83	17.70	17.95	17.85	17.09	17.10	17.13
1901	17.10	17.30	19.04	19.23	18.50	18.10	18.10	20.02	20.35	19.50	21.48	25.10	19.49
1902	25.10	22.23	20.73	19.95	22.10	22.35	22.75	23.10	18.48	18.65	18.41	18.30	21.01
1903	20.23	21.23	21.66	19.55	18.48	20.35	19.75	19.91	20.80	20.98	19.60	19.30	20.15
1904	20.64	22.04	22.29	22.15	23.65	21.28	20.95	23.65	23.09	21.34	20.15	20.44	21.81
1905	19.94	19.05	19.89	19.09	18.70	18.40	17.90	17.65	16.96	16.85	17.75	18.34	18.38
1906	19.70	20.08	19.65	20.96	20.46	20.15	20.40	20.15	20.03	20.85	22.00	21.84	20.52
1907	21.35	22.46	22.96	22.54	23.40	23.66	23.05	24.79	27.98	28.55	25.73	24.73	24.27
1908	25.25	25.54	27.16	27.10	27.91	26.41	24.90	26.54	25.25	23.73	23.73	23.70	25.60
1909	24.09	26.46	26.70	26.59	28.40	26.77	25.53	25.03	24.15	23.59	23.40	24.85	25.46
1910	27.03	26.71	25.40	23.03	23.03	23.05	25.59	26.33	24.35	24.48	25.40	26.54	25.08
1911	26.10	25.30	24.65	26.19	26.10	25.41	26.35	28.60	29.60	28.48	27.70	27.48	26.83
1912	28.10	30.10	29.98	30.41	29.90	27.18	29.10	28.54	27.48	24.95	22.35	22.60	27.56
1913	24.05	23.04	21.85	21.15	21.98	22.35	22.80	24.98	27.66	26.40	25.54	24.60	23.87
1914	25.35	25.98	28.35	28.00	26.79	26.41	25.60	28.35	26.60	24.23	25.04	25.90	26.38
1915	26.91	27.35	25.33	26.99	25.68	27.38	29.43	29.93	24.58	22.82	21.93	23.58	25.99
1916	23.49	25.43	24.18	23.68	24.08	23.06	22.62	25.48	27.49	30.99	34.83	33.06	26.53
1917	34.58	38.81	41.43	44.81	41.88	36.65	43.65	47.50	39.78	41.20	42.36	45.83	41.54
1918	38.15	38.19	38.38	38.96	35.55	36.91	34.09	38.89	38.56	37.83	37.41	47.51	38.37
1919	55.65	46.28	46.10	49.03	49.90	47.40	53.78	60.10	59.28	51.65	48.40	50.03	51.47
1920	50.20	54.78	59.40	60.90	64.60	63.15	59.90	59.53	56.65	42.30	39.78	33.90	53.76
1921	33.23	30.03	29.90	23.60	23.90	23.53	22.60	24.40	22.28	21.03	23.78	29.50	25.65
1922	29.92	33.70	35.04	32.25	30.25	26.21	26.71	25.71	26.93	31.25	32.42	32.23	30.22
1923	34.17	35.96	36.54	36.08	36.58	33.13	32.92	33.46	36.00	35.92	33.54	32.71	34.75
1924	33.92	32.54	30.55	29.25	25.50	27.61	33.04	34.58	31.13	34.83	35.63	40.00	32.38
1925	42.36	35.17	32.21	32.50	36.04	38.30	34.07	35.23	35.07	31.97	34.13	33.50	35.05
1926	34.77	32.33	30.29	32.61	29.75	29.14	....	....	....	....	....	....	....

TABLE 6.—PRICES OF WHITE HOMINY IN SACKS IN STRAIGHT CARS AT UTICA, N. Y., 1902-1926

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
02-14	25.66	25.22	24.83	24.43	25.57	26.21	26.27	27.33	28.25	27.27	26.60	26.22	26.16
05-09	24.51	24.02	24.65	24.72	25.94	26.61	26.27	26.78	27.61	27.19	26.57	26.50	25.95
10-14	27.83	27.70	26.66	26.34	27.26	27.49	27.65	29.71	31.29	29.58	28.84	28.03	28.20
21-25	38.85	36.17	34.76	33.36	36.51	36.70	36.83	38.37	37.68	36.99	37.65	38.83	36.89
1902	27.10	24.25	22.91	23.18	24.64	25.10	26.48	25.35	24.66	23.75	22.16	22.10	24.31
1903	22.54	22.66	21.44	18.22	20.23	22.98	23.20	23.16	23.60	22.85	22.60	22.60	22.17
1904	22.31	22.39	21.85	20.90	21.53	22.09	22.30	24.34	24.53	24.03	23.95	23.56	22.82
1905	21.96	20.43	21.37	20.71	21.35	22.46	22.90	22.65	22.30	22.34	22.84	22.78	22.01
1906	22.05	20.95	21.45	22.90	23.65	24.50	23.65	23.28	23.84	23.90	23.03	23.15	23.03
1907	22.25	23.40	23.40	23.60	24.80	25.50	24.86	26.66	29.48	30.60	28.85	28.16	25.96
1908	28.25	26.98	28.04	27.50	28.85	29.10	28.80	31.10	32.80	30.35	29.48	29.60	29.24
1909	28.03	28.33	29.01	28.90	31.03	31.50	31.15	30.21	29.65	28.78	28.65	28.80	29.50
1910	29.90	28.71	27.00	24.29	24.59	23.33	23.78	26.35	25.73	25.00	24.50	23.68	25.57
1911	23.35	23.25	22.30	22.94	25.23	26.01	27.35	28.91	29.35	30.41	31.90	30.98	26.83
1912	30.62	32.51	31.54	31.46	31.55	29.98	29.70	30.23	32.10	29.70	28.48	27.60	30.46
1913	26.10	24.91	23.23	23.95	25.60	27.35	26.80	29.10	33.85	31.70	28.10	28.60	27.44
1914	29.16	29.10	29.23	29.05	29.35	30.79	30.60	33.98	35.40	31.10	31.23	29.30	30.69
1915	30.60	34.48	31.38	30.81	32.68	32.48	33.74	33.99	33.58	31.18	29.18	29.56	31.97
1916	30.43	31.96	29.75	29.56	30.23	28.99	29.74	33.58	37.86	37.49	42.01	42.83	33.70
1917	44.55	45.56	45.62	54.18	56.62	54.40	58.55	68.10	60.40	60.66	64.15	65.90	56.56
1918	65.90	67.15	70.35	58.28	52.40	55.16	65.28	66.90	63.96	61.40	59.10	66.53	62.70
1919	68.84	55.40	59.50	65.53	69.35	72.53	78.95	80.00	69.03	59.78	64.55	68.82	67.69
1920	67.07	66.95	68.28	67.03	75.20	76.65	71.00	68.15	63.78	46.40	45.40	44.20	63.34
1921	37.57	32.15	31.90	29.10	32.03	32.84	31.15	32.90	31.73	28.45	29.15	31.00	31.66
1922	27.96	28.15	28.33	27.04	29.63	29.46	31.42	32.11	32.42	34.46	35.92	36.67	31.13
1923	37.25	36.50	34.92	34.75	38.29	38.13	37.25	38.75	40.38	44.08	42.38	38.00	38.39
1924	36.92	36.04	34.58	33.83	38.29	38.67	42.67	46.92	46.38	44.28	44.83	52.50	41.33
1925	54.57	48.00	44.08	42.08	44.33	44.42	41.67	41.17	37.50	33.67	36.04	36.00	41.96
1926	35.54	32.70	30.88	31.50	30.56	30.45	....	....	....	....	....	....	....

TABLE 7.—PRICES OF FLOUR MIDDLINGS IN SACKS IN STRAIGHT CARS AT UTICA, NEW YORK, 1897-1926

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
97-13	23.29	23.47	23.30	22.95	23.59	23.54	23.89	24.49	24.49	24.29	23.79	23.98	23.76
00-04	21.64	21.40	20.92	20.25	21.41	21.73	22.40	22.66	22.35	22.38	21.76	22.43	21.78
05-09	24.73	25.23	25.57	25.58	25.56	25.48	25.27	25.73	25.93	26.03	25.68	25.64	25.54
10-14	28.71	28.79	28.48	28.20	28.56	28.19	28.89	30.16	30.34	29.50	28.96	29.21	29.00
21-25	39.42	37.79	37.58	35.91	36.37	36.02	34.30	36.62	36.49	36.35	36.87	37.22	36.75
1897	14.40	14.75	15.03	14.60	14.84	15.22	15.30	17.34	17.93	16.44	16.74	17.05	15.80
1898	17.37	18.08	17.23	17.20	20.30	19.29	18.69	19.25	16.75	17.52	17.46	17.28	18.04
1899	17.50	18.12	18.25	17.83	18.18	18.25	18.78	18.60	19.00	19.36	19.05	18.98	18.49
1900	19.08	18.14	18.28	18.55	18.34	18.76	20.17	19.48	20.17	20.02	19.36	19.49	19.15
1901	19.30	19.56	20.67	20.06	19.82	19.62	20.38	22.44	21.28	22.63	24.12	26.87	21.40
1902	24.88	22.95	21.30	21.20	23.40	24.63	26.41	23.07	20.68	20.32	19.75	20.02	22.38
1903	21.81	22.85	20.88	18.05	20.41	22.10	21.65	23.16	24.20	24.23	22.35	22.60	22.02
1904	23.13	23.50	23.48	23.40	25.09	23.53	23.40	25.15	25.40	24.71	23.20	23.19	23.93
1905	22.38	21.90	21.90	21.03	20.60	21.03	20.40	20.40	19.65	19.40	20.20	21.15	20.84
1906	22.00	22.40	22.30	23.21	23.65	23.40	23.40	23.40	23.40	23.20	24.03	24.40	23.23
1907	23.40	24.46	24.90	24.73	24.35	24.66	25.70	26.73	29.48	29.80	27.85	27.10	26.10
1908	27.80	27.60	28.60	29.30	28.66	28.29	27.30	29.73	29.60	29.10	27.79	28.15	28.49
1909	28.09	29.78	30.15	29.65	30.53	30.00	29.53	28.40	27.50	28.65	28.53	27.40	29.02
1910	28.15	28.65	28.40	27.65	27.90	28.00	29.40	30.40	28.48	27.85	27.90	28.35	28.43
1911	28.48	28.10	28.40	28.23	27.60	27.60	28.04	29.48	29.97	30.05	30.10	30.10	28.85
1912	31.20	31.98	31.54	31.41	31.60	29.98	31.00	30.98	31.98	30.20	27.85	27.10	30.57
1913	27.00	26.10	24.85	24.00	25.73	25.85	26.60	28.35	30.85	29.50	28.23	28.40	27.12
1914	28.73	29.10	29.23	29.70	29.98	29.54	29.40	31.60	30.40	29.91	30.73	32.10	30.04
1915	33.48	33.85	31.12	32.43	32.18	32.68	36.18	35.56	29.68	28.12	27.06	27.48	31.65
1916	28.06	29.93	28.58	27.18	28.48	27.68	26.68	30.68	32.62	36.43	40.18	38.56	31.26
1917	41.28	45.93	47.93	48.93	49.48	49.65	52.90	58.50	51.40	53.20	54.15	52.03	50.45
1918	44.90	44.61	44.83	45.35	....	....	....	....	....	....	....	62.40	....
1919	60.40	51.28	51.10	53.03	55.80	54.65	59.53	66.10	64.53	60.03	58.40	59.15	57.83
1920	57.90	60.78	64.40	65.65	69.40	68.90	69.40	71.28	71.53	57.40	51.03	41.50	62.43
1921	38.90	34.65	35.78	29.80	29.40	30.03	29.30	32.03	31.15	29.73	30.93	33.30	32.08
1922	38.90	39.40	40.57	40.40	40.28	36.53	28.71	34.65	33.73	35.57	36.75	36.00	36.79
1923	36.83	38.00	38.96	38.75	38.83	37.83	37.00	37.00	38.13	37.71	36.04	35.75	37.57
1924	36.42	35.92	34.60	32.42	31.42	33.16	36.21	37.83	38.04	40.00	41.50	44.14	36.81
1925	46.07	41.00	38.00	38.17	41.92	42.55	40.28	41.57	41.40	38.73	39.15	36.90	40.48
1926	37.63	35.28	33.29	34.94	34.31	33.10	....	....	....	....	....	....	....

TABLE 8.—PRICES OF GROUND OATS IN SACKS IN STRAIGHT CARS AT UTICA, N. Y., 1908-1926

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
08-10	32.44	33.23	33.67	34.23	35.16	35.31	35.86	34.78	32.93	31.96	31.51	31.88	33.58
10-14	31.02	31.82	31.74	32.25	32.73	33.21	33.67	33.25	32.16	31.03	31.14	31.11	32.09
21-25	40.53	40.47	39.17	38.49	39.12	39.05	38.53	36.68	36.34	37.64	38.36	39.70	38.67
1908	36.42	36.62	38.75	38.45	40.43	38.85	41.74	41.87	37.80	37.28	34.00	34.52	38.06
1909	35.57	36.88	38.26	39.90	42.05	42.29	40.95	35.30	31.90	31.24	30.87	33.08	36.52
1910	36.40	35.51	34.06	32.76	32.34	31.08	32.39	31.45	28.32	26.65	26.38	26.36	31.14
1911	25.67	26.83	25.62	26.33	27.46	30.64	34.18	31.50	33.20	35.93	36.54	36.07	30.83
1912	36.17	38.90	40.36	42.84	43.05	40.61	39.53	36.68	30.40	26.99	25.83	26.25	35.63
1913	26.57	27.25	27.15	28.14	29.09	31.76	31.58	33.55	33.16	31.87	32.50	31.31	30.33
1914	30.29	30.61	31.52	31.19	31.71	31.94	30.66	33.08	35.70	33.73	34.44	35.54	32.53
1915	37.64	40.37	40.38	41.39	41.61	39.22	40.43	40.93	27.41	27.56	27.85	30.56	36.28
1916	36.27	36.75	35.60	36.02	34.40	32.92	32.87	35.07	36.52	38.35	42.32	40.79	36.49
1917	43.95	50.03	53.39	56.60	56.02	51.14	58.86	54.86	48.83	46.35	49.61	58.70	52.36
1918	62.48	68.25	73.50	72.05	64.58	62.35	61.43	57.88	57.33	56.23	56.28	58.95	62.61
1919	55.60	48.53	52.42	56.78	57.70	56.54	63.44	61.58	57.27	57.34	58.49	64.60	57.52
1920	67.78	69.67	72.66	81.74	90.57	91.61	81.69	65.34	55.65	48.04	45.79	44.01	67.88
1921	41.40	40.30	39.77	36.44	38.11	36.95	35.32	34.07	34.65	33.86	34.03	33.35	36.52
1922	32.95	34.22	32.68	33.52	33.68	32.28	32.49	30.49	32.88	35.87	37.55	39.44	34.00
1923	38.94	39.54	39.47	40.39	39.79	38.89	37.68	36.17	36.93	38.80	39.64	39.89	38.84
1924	40.99	42.04	41.43	42.26	42.13	43.67	45.76	44.04	40.98	43.25	43.37	47.16	43.09
1925	48.35	46.23	42.52	39.82	41.88	43.47	41.39	38.65	36.28	36.42	37.22	38.68	40.91
1926	39.33	37.61	36.82	37.53	36.26	36.60	....	....	....	....	....	....	....

TABLE 9.—PRICES OF RED DOG IN SACKS IN STRAIGHT CARS AT UTICA, NEW YORK, 1897-192

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver
97-13	24.94	24.81	24.53	24.34	25.00	25.20	25.64	26.29	26.57	26.37	25.64	25.57	25.4
00-04	23.43	23.02	22.81	22.27	23.11	23.58	24.44	24.91	24.96	25.06	24.27	24.64	23.8
05-09	26.52	26.53	26.79	26.87	27.19	27.41	27.67	28.21	28.74	28.80	27.73	27.69	27.5
10-14	30.53	30.29	29.51	29.35	29.52	29.64	30.51	31.64	32.26	31.60	30.87	30.88	30.5
21-25	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	------
1897	16.82	16.60	16.65	16.43	16.92	16.50	16.48	18.40	18.75	17.10	17.72	17.58	17.1
1898	17.87	18.47	17.42	18.64	22.99	21.57	19.31	20.31	19.43	19.18	18.78	18.88	19.4
1899	18.43	18.66	18.33	18.17	18.88	19.40	19.74	19.41	19.76	20.03	19.89	19.13	19.1
1900	19.20	18.64	18.84	19.14	19.48	20.04	21.57	20.80	21.17	20.53	20.13	20.41	20.0
1901	20.17	20.27	20.89	20.94	20.77	21.30	21.28	22.79	23.32	24.00	25.08	27.37	22.3
1902	26.93	24.04	23.35	22.80	24.98	25.85	27.50	26.23	24.10	25.21	24.60	24.52	25.0
1903	24.81	25.26	24.97	22.40	22.66	24.41	25.25	26.29	27.20	27.23	25.04	24.50	25.0
1904	24.06	24.91	23.98	24.05	25.65	24.28	24.60	26.43	27.03	26.34	24.50	24.38	25.0
1905	23.44	22.28	23.00	23.40	23.20	23.15	22.90	23.05	23.21	22.90	22.75	22.71	23.0
1906	23.35	23.55	23.20	24.28	24.65	25.10	25.96	25.53	25.40	25.85	26.40	25.90	24.9
1907	25.10	25.71	25.90	25.35	25.70	26.60	27.10	28.60	30.70	31.60	30.10	30.35	27.7
1908	30.20	29.60	30.60	30.40	30.10	29.48	29.50	31.23	32.00	30.98	29.73	29.90	30.3
1909	30.53	31.53	31.25	30.90	32.28	32.70	32.90	32.65	32.40	32.65	29.65	29.60	31.5
1910	31.84	31.65	30.65	29.28	29.20	29.00	29.03	29.80	29.29	28.98	29.30	29.23	29.7
1911	28.60	28.35	27.60	28.35	28.46	28.48	30.23	32.10	32.85	32.73	32.70	32.10	30.2
1912	33.70	33.35	32.35	32.10	32.30	32.48	33.80	33.98	33.98	32.60	29.91	28.85	32.4
1913	28.90	28.85	27.98	27.20	26.81	28.10	28.80	29.35	31.10	30.30	29.60	29.30	28.8
1914	29.60	29.23	28.98	29.80	30.85	30.16	30.70	32.98	34.10	33.41	32.85	34.90	31.4
1915	36.23	35.98	31.98	33.93	32.18	34.68	37.93	36.43	31.98	29.93	28.81	28.88	33.2
1916 ...	28.93	31.99	30.63	29.68	30.28	30.68	30.18	33.48	34.68	38.87	43.38	47.18	34.1
1917	48.38	51.93	47.43	49.18	51.88	53.15	57.21	63.70	60.65	61.20	61.90	61.68	55.6
1918	50.90	50.61	50.83	51.50	42.73	34.05	35.22	38.46	38.02	38.29	36.78	52.09	43.2
1919	65.40	57.28	57.50	58.78	62.00	62.90	67.15	72.00	71.65	69.65	67.60	66.03	64.8
1920	64.80	67.40	70.40	71.40	74.80	74.40	75.50	77.65	78.90	69.00	59.28	48.80	69.3
1921	44.57	40.03	39.90	34.50	33.40	34.53	36.30	39.53	39.78	37.90	37.78	37.20	37.9
1922	42.01	41.38	42.90	42.65	41.28	38.22	38.00	38.05	35.83	37.75	39.15	39.65	39.7
1923	....	....	....	....	....	....	....	....	....	....	....	....	....
1924	38.10	39.43	37.91	35.85	36.85	39.42	42.08	44.38	44.58	46.00	47.75	49.31	41.81
1925	50.19	47.83	46.29	46.33	48.00	49.67	47.50	47.50	47.75	45.67	46.38	46.25	47.4
1926	44.22	41.55	37.88	37.63	37.56	37.39	--------	--------	--------	--------	--------	--------	------

TABLE 10.—MONTHLY AVERAGES OF PRICES OF CRUSHED OYSTER SHELL, SIZE NO. 2, FOR POULTRY FEEDING, ASSORTED MILL RUN SACKED F. O. B. BALTIMORE

MINIMUM CAR 18 TONS

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
10-14	5.96	6.00	5.97	6.00	6.00	6.00	6.00	6.00	6.00	5.97	6.00	5.94	5.99
21-25	10.78	10.68	10.86	10.97	10.96	10.80	10.80	10.86	10.67	10.52	10.58	10.70	10.77
1905	--------	--------	--------	--------	--------	--------	--------	5.50	5.50	5.50	5.50	5.50	--------
1906	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.75	5.52
1907	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
1908	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
1909	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
1910	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
1911	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
1912	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
1913	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
1914	5.81	6.00	5.85	6.00	6.00	6.00	6.00	6.00	6.00	5.83	6.00	5.70	5.93
1915	5.81	6.00	5.56	6.00	6.00	5.50	5.50	5.50	5.50	6.00	5.75	5.75	5.74
1916	5.29	5.38	5.17	5.17	5.50	5.75	5.50	5.50	5.50	5.50	6.00	6.00	5.52
1917	5.90	6.00	6.83	7.00	6.75	7.25	8.00	8.00	8.00	8.75	9.40	11.30	7.77
1918	13.50	12.25	11.25	10.75	11.63	12.50	13.66	14.00	14.00	14.25	14.50	14.75	13.09
1919	15.00	14.50	13.50	12.60	12.00	12.00	12.00	12.00	12.00	12.00	13.00	13.00	12.80
1920	13.00	13.00	13.07	14.21	15.42	15.65	16.00	16.12	15.94	15.95	16.04	13.17	14.80
1921	12.00	12.00	12.00	12.00	11.28	10.00	10.00	10.00	8.85	8.00	8.00	8.00	10.18
1922	8.00	7.80	8.00	8.00	8.50	9.00	9.00	9.30	9.50	9.67	10.06	11.00	8.99
1923	11.00	11.10	11.30	11.83	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.77
1924	11.40	11.00	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.45
1925	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.50	11.43	11.33	11.00	11.44
1926	11.00	11.00	11.00	11.00	....	....	....	....	....	....	....	....	....

TABLE 11.—PRICES OF LINSEED OIL MEAL, 34 PER CENT PROTEIN, IN SACKS IN STRAIGHT CARS AT UTICA, NEW YORK, 1897-1913

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
97-13	29.72	29.86	29.07	28.93	28.71	28.38	28.56	29.51	30.28	30.36	30.11	30.09	29.47
00-04	27.74	27.83	27.49	26.86	26.87	26.54	26.96	27.27	27.72	27.81	27.51	27.90	27.38
05-09	30.67	30.59	30.60	30.42	30.62	30.76	30.98	31.48	32.32	32.22	31.97	31.97	31.22
10-14	34.61	34.77	33.29	33.45	33.08	32.15	32.28	34.42	35.33	34.48	34.17	34.24	33.86
21-25	50.18	50.07	49.85	46.44	46.11	45.62	47.43	49.49	48.50	48.37	49.55	51.12	48.56
1897	20.28	20.89	21.09	19.88	19.08	19.48	19.48	21.29	23.30	23.09	24.50	25.70	21.51
1898	25.70	26.51	24.90	23.90	24.70	25.10	24.30	24.10	22.49	24.30	25.10	24.70	24.65
1899	24.90	25.10	22.49	25.30	22.29	22.29	24.10	24.10	25.70	27.11	27.11	26.51	24.75
1900	26.31	26.91	26.91	27.31	27.11	26.91	27.51	27.31	27.71	28.92	30.12	29.32	27.70
1901	29.52	28.11	27.31	26.11	26.51	26.31	27.11	29.32	28.52	28.72	27.71	28.52	27.81
1902	30.60	30.66	29.23	28.35	28.35	28.60	29.60	29.04	28.73	27.65	27.23	27.73	28.81
1903	28.23	28.29	27.79	27.15	27.10	25.98	25.60	24.85	25.60	24.60	23.73	23.75	26.06
1904	24.05	25.16	26.23	25.40	25.28	24.90	25.00	25.84	28.03	29.15	28.75	30.19	26.50
1905	28.38	28.15	29.60	29.53	29.40	29.53	29.90	30.10	31.15	29.90	30.60	31.28	29.79
1906	31.80	31.60	29.50	29.40	29.90	29.65	30.40	31.65	32.57	31.40	31.15	30.28	30.78
1907	28.80	28.78	28.84	28.73	29.60	29.60	29.60	29.85	31.10	33.40	31.85	30.48	30.05
1908	31.80	31.60	32.35	31.80	31.35	31.10	31.10	31.79	33.15	32.48	32.10	32.40	31.92
1909	32.59	32.84	32.70	32.65	32.84	33.90	33.90	34.00	33.65	33.90	34.15	35.40	33.54
1910	37.28	37.65	36.10	34.65	34.28	32.85	33.84	37.60	38.85	37.35	35.20	34.60	35.85
1911	34.73	34.85	32.90	33.98	33.60	33.60	34.35	36.20	37.60	38.50	38.60	38.29	35.60
1912	38.80	40.10	37.73	39.73	38.20	34.35	30.50	34.23	33.98	33.90	32.60	31.60	35.48
1913	31.50	30.48	28.60	28.00	28.48	28.35	29.30	30.48	32.60	31.80	31.35	30.80	30.15
1914	30.73	30.79	31.10	30.90	30.85	31.60	33.40	33.60	33.60	30.85	33.10	35.90	32.20
1915	38.85	41.35	36.48	31.93	30.93	31.28	33.93	37.06	38.28	37.93	38.43	39.13	36.30
1916	39.49	36.99	33.28	30.99	29.88	32.18	34.06	36.48	37.93	39.68	44.88	48.31	37.01
1917	48.28	48.68	45.81	45.31	47.58	47.90	50.40	53.10	51.40	53.70	54.65	58.15	50.41
1918	56.78	56.40	58.30	55.65	50.65	50.00	55.15	57.40	57.40	57.78	58.50	59.90	56.16
1919	67.07	62.28	63.40	66.05	68.63	69.15	75.65	88.78	78.90	72.83	75.08	78.92	72.23
1920	78.65	76.15	71.40	63.53	67.20	66.78	65.90	64.03	63.40	60.20	54.15	45.40	64.73
1921	44.73	44.78	45.15	40.50	34.53	36.21	43.10	46.53	45.40	42.40	44.65	49.90	43.16
1922	51.24	55.20	58.48	55.45	56.48	51.70	49.56	47.27	46.90	51.90	55.82	55.39	52.95
1923	57.07	57.92	55.92	47.92	48.42	46.25	46.75	49.42	49.75	48.90	48.07	48.57	50.41
1924	48.15	45.38	45.82	45.32	44.32	44.77	47.00	51.15	51.07	50.65	49.98	50.15	47.81
1925	49.73	47.11	43.86	43.03	46.82	49.19	50.73	53.07	49.40	47.98	49.21	51.61	48.48
1926	52.82	49.95	47.38	52.58	51.03	49.72	....	....	....	....	....	....	....

TABLE 12.—PRICES OF MEAT SCRAP 50-55 PERCENT PROTEIN IN SACKS IN STRAIGHT CARS AT UTICA, N. Y.—1907-1926

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910-14	51.95	52.18	52.41	52.41	52.41	52.41	52.41	52.41	52.86	53.38	53.59	53.59
1921-25	89.26	87.17	85.14	80.46	79.21	77.78	76.88	77.95	79.38	83.55	82.93	83.60
1907	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66
1908	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66
1909	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66	45.66
1910	45.66	45.66	46.84	46.84	46.84	46.84	46.84	46.84	49.08	50.38	50.38	50.38
1911	51.60	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74
1912	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74
1913	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	52.74	54.04	55.10	55.10
1914	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00
1915	57.00	57.02	57.10	57.10	57.10	57.10	57.10	57.10	57.10	57.10	57.10	57.10
1916	57.10	57.10	57.10	57.10	57.10	57.10	57.10	57.10	57.10	57.10	57.10	52.10
1917	57.10	57.10	57.10	62.10	67.10	69.10	87.10	87.40	92.40	94.40	92.40	92.70
1918	107.40	107.40	117.40	109.40	104.40	197.52	98.00	100.00	101.00	100.00	108.00	108.00
1919	103.00	103.00	103.00	103.00	103.00	98.00	98.00	103.00	105.00	105.00	103.00	103.00
1920	103.00	103.00	115.00	113.00	113.00	115.00	111.00	123.23	124.20	116.20	121.20	114.20
1921	110.20	101.44	101.73	89.20	89.20	89.20	89.20	89,20	89.20	87.70	84.70	84.70
1922	85.70	87.20	88.20	88.20	88.20	86.20	83.80	84.80	89.30	90.80	93.80	94.80
1923	95.63	96.30	93.05	89.80	89.80	88.80	83.80	83.47	82.80	86.13	86.80	86.80
1924	85.97	82.13	75.59	68.30	65.30	61.80	61.80	63.80	61.80	76.80	71.80	70.80
1925	68.80	68.80	67.13	66.80	63.55	62.88	65.80	68.47	73.80	76.30	77.55	80.88
1926	81.38	82.30	79.47	....	....	....	....	....	....	....	....	....

Yearly Averages	1910-14	$52.67	1910	$47.72	1915	$57.09	1920	$114.34
	1921-25	81.94	1911	52.65	1916	56.68	1921	92.14
	1907	45.66	1912	52.74	1917	76.73	1922	88.42
	1908	45.66	1913	53.24	1918	104.88	1923	88.60
	1909	45.66	1914	57.00	1919	102.50	1924	70.49
							1925	70.06

TABLE 13.—PRICES OF COTTONSEED MEAL, 43 PER CENT PROTEIN, IN SACKS IN STRAIGHT CARS AT UTICA, NEW YORK, 1897-1926

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
97-13	27.66	27.35	27.47	27.58	27.48	27.74	28.02	28.52	28.73	28.23	28.12	28.05	27.91
00-04	26.33	26.02	26.49	26.12	25.54	25.42	25.95	26.42	26.90	26.80	26.42	26.31	26.23
05-09	29.27	28.86	29.11	29.64	29.74	30.78	30.93	30.56	30.58	30.48	30.66	30.77	30.11
10-14	32.88	32.09	31.86	32.56	32.78	32.81	32.97	34.24	34.08	31.99	31.54	31.55	32.61
21-25	50.20	49.15	49.70	49.93	51.39	51.44	53.07	52.01	50.80	50.49	51.54	51.49	50.93
1897	20.29	20.54	20.54	20.18	19.58	19.89	19.97	21.06	22.02	21.76	21.96	21.55	20.78
1898	20.71	20.89	21.04	20.49	20.94	20.39	20.35	20.78	20.54	20.54	20.54	20.43	20.64
1899	20.69	20.61	20.54	20.54	20.54	20.54	20.54	20.89	21.66	21.57	21.57	21.57	20.94
1900	21.57	21.99	22.78	22.60	22.60	22.04	22.60	23.28	26.67	26.09	26.19	25.78	23.68
1901	25.68	25.00	25.18	24.84	23.07	23.59	24.41	25.82	26.35	25.89	24.96	26.30	25.09
1902	28.80	28.10	28.10	27.18	30.16	29.08	29.64	29.56	27.35	27.35	27.10	27.35	28.31
1903	29.10	29.23	28.29	27.60	26.17	26.95	26.77	26.71	26.71	27.35	26.35	26.35	27.30
1904	26.51	25.79	28.10	28.40	25.68	25.42	26.35	26.74	27.41	27.33	27.48	25.75	26.75
1905	26.00	25.59	26.40	26.65	26.65	26.71	26.45	26.23	26.71	27.22	28.15	29.46	26.85
1906	30.80	30.60	30.85	31.15	31.15	31.72	31.72	31.72	31.21	29.17	30.19	29.94	30.85
1907	30.19	29.17	28.92	28.15	27.13	29.60	29.60	30.10	30.98	31.20	29.73	29.48	29.52
1908	29.90	29.10	28.60	29.35	30.48	30.98	31.98	30.98	30.50	30.10	30.35	29.85	30.18
1909	29.46	29.84	30.80	32.90	33.28	34.90	34.90	33.78	33.50	34.73	34.90	35.10	33.17
1910	36.40	36.21	35.35	34.28	33.78	33.20	32.03	33.50	33.48	31.85	31.30	30.72	33.51
1911	30.48	29.41	28.40	29.23	29.35	30.23	30.85	33.00	32.10	31.98	30.90	30.85	30.57
1912	31.05	31.73	32.10	33.35	33.80	33.10	32.80	32.60	33.10	32.60	32.60	32.60	32.62
1913	32.60	31.23	30.98	32.05	32.85	33.29	35.30	38.10	38.10	33.23	33.85	33.80	33.78
1914	33.85	31.85	32.48	33.90	34.10	34.25	33.87	33.98	33.60	30.30	29.04	29.80	32.59
1915	30.73	32.88	33.08	39.18	32.56	31.73	32.06	32.56	32.83	36.06	36.27	39.28	34.10
1916	39.43	37.43	36.63	36.93	35.63	35.37	35.18	36.40	38.93	40.31	46.16	46.31	38.73
1917	45.18	44.68	42.56	44.62	45.88	48.15	52.65	54.10	53.28	53.80	56.90	58.40	50.02
1918	55.53	56.15	55.30	55.53	54.40	53.70	56.05	56.47	68.64	67.47	69.14	69.93	59.86
1919	68.82	68.82	69.68	72.06	70.76	74.90	85.70	93.12	82.26	80.64	86.53	85.56	78.24
1920	85.77	84.89	80.16	76.25	82.00	81.11	74.54	69.30	67.33	58.40	50.95	42.88	71.13
1921	42.57	40.46	39.53	39.20	42.34	42.96	49.90	50.90	50.90	50.30	48.65	51.15	45.74
1922	49.01	51.65	56.46	58.92	60.88	58.92	54.29	46.64	45.63	50.17	56.58	57.15	53.86
1923	56.63	55.42	55.25	54.11	54.25	52.30	53.32	52.06	54.52	54.80	58.17	55.83	54.72
1924	54.33	51.46	50.63	50.04	50.25	53.17	55.29	54.83	52.08	51.63	49.88	49.25	51.90
1925	48.48	46.75	46.63	47.38	49.21	49.83	52.54	55.63	50.88	45.53	44.42	44.08	48.45
1926	43.25	42.45	41.46	41.44	41.50	41.60	....	....	....	....	....	....	....

TABLE 14.—PRICES OF DRIED BEET PULP IN SACKS IN STRAIGHT CARS AT UTICA, NEW YORK, 1909-1926

(Dollars per ton)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
10-14	24.44	24.52	24.54	24.54	24.54	24.54	24.45*	24.50*	24.13*	24.74	24.73	24.83	24.54
1909	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20	23.20
1910	23.20	23.40	23.40	23.40	23.40	23.40	23.40	23.60	23.60	23.60	23.60	23.60	23.47
1911	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	23.60	24.40	24.40	24.40	23.80
1912	24.40	24.40	24.40	24.40	24.40	24.40	24.40	24.40	24.40	24.40	24.40	24.40	24.40
1913	24.60	24.80	24.90	24.90	24.90	24.90	....	....	....	26.40	26.40	26.40	....
1914	26.40	26.40	26.40	26.40	26.40	26.40	26.40	26.40	24.90	24.90	24.85	25.35	25.93
1915	25.35	25.35	25.43	25.43	25.43	25.43	25.43	25.43	25.43	25.43	25.43	25.43	25.42
1916	25.43	25.43	25.43	25.43	25.43	25.43	25.43	....	....	25.93	25.93	25.93	....
1917	25.93	25.93	25.93	25.93	25.93	....	....	....	....	40.25	40.25	41.25	....
1918	41.25	41.25	50.24	50.10	....	....	....	....	....	46.80	46.80	46.80	....
1919	46.80	46.80	46.80	46.80	46.80	....	....	....	....	56.00	56.00	56.00	....
1920	56.00	56.00	56.00	56.00	56.00	56.00	56.00	55.92	56.19	54.98	52.71	48.44	55.02
1921	42.80	40.75	35.12	31.75	29.20	29.20	29.20	29.20	29.15	28.64	26.70	27.18	31.57
1922	29.00	31.36	33.96	....	....	....	....	....	....	36.90	45.40	47.34	....
1923	50.40	50.40	49.59	45.40	45.40	45.20	42.40	42.40	41.58	38.40	38.40	35.98	43.80
1924	35.40	35.40	35.40	....	....	....	....	46.40	42.61	40.08	37.90	37.90	....
1925	39.67	40.40	40.40	40.40	42.14	42.40	42.40	....	....	40.40	41.43	44.90	....
1926	43.25	42.45	41.46	41.44	41.50	41.60	....	....	....	....	....	....	....

*Based on 4 years; 1913 missing.

TABLE 15.—INDEX NUMBERS OF PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK

(Corresponding months, 1910-14 = 100)

Date	Corn Meal	Gluten Feed	White Hominy	Ground Oats	Bran	Standard Middl'gs	Red Dog	Flour Middl'gs	Wheat-Mixed Feed	Linseed Oil Meal	Cotton-seed Meal	Meat Scraps
1897	55	......	......	......	56	53	56	54	......	64	64	......
1898	62	......	......	......	64	61	64	62	......	73	63	......
1899	63	......	......	......	64	62	63	64	......	73	64	......
1900	68	......	......	......	68	66	65	66	......	82	73	......
1901	82	......	......	......	78	75	73	74	77	82	77	......
1902	90	85	86	......	81	81	82	77	82	85	87	......
1903	76	87	79	......	79	78	82	76	80	77	84	......
1904	80	83	81	......	85	84	82	83	85	78	82	......
1905	80	87	78	......	74	71	75	72	74	88	82	......
1906	77	88	82	......	81	79	82	80	82	91	95	......
1907	86	99	92	......	97	94	91	90	95	89	91	87
1908	104	107	104	119	101	99	99	98	102	94	93	87
1909	101	101	105	114	102	98	103	100	102	99	102	87
1910	91	99	91	97	96	97	97	98	96	106	103	91
1911	91	95	95	96	103	103	99	99	102	105	94	100
1912	110	104	108	111	105	106	106	105	105	105	100	100
1913	98	97	97	95	92	92	94	94	94	89	104	101
1914	110	106	109	101	104	102	103	104	103	95	100	108
1915	112	101	113	113	99	100	109	109	104	107	105	108
1916	119	111	120	114	101	102	112	108	106	109	119	108
1917	238	170	201	163	155	160	182	174	160	149	153	146
1918	233	199	222	195	146	148	142	......	......	166	184	199
1919	238	233	240	179	184	198	212	199	192	213	240	195
1920	230	239	225	212	202	207	227	215	206	191	218	217
1921	114	139	112	114	104	99	124	111	110	127	140	175
1922	107	137	110	106	117	116	130	127	119	156	165	168
1923	138	164	136	121	136	134	......	130	134	149	168	168
1924	155	150	147	134	127	125	137	127	129	141	159	131
1925	164	149	149	127	134	135	155	140	139	143	149	133
1897												
January	53	......	......	......	48	48	55	50	......	59	62	......
February	51	......	......	......	52	51	55	51	......	60	64	......
March	53	......	......	......	55	56	56	53	......	63	64	......
April	54	......	......	......	54	56	56	52	......	59	62	......
May	53	......	......	......	53	50	57	52	......	58	60	......
June	54	......	......	......	56	50	56	54	......	61	61	......
July	54	......	......	......	55	48	54	53	......	60	61	......
August	54	......	......	......	59	52	58	57	......	62	62	......
September	55	......	......	......	61	54	58	59	......	66	65	......
October	57	......	......	......	60	56	54	56	......	67	68	......
November	58	......	......	......	62	56	57	58	......	72	70	......
December	60	......	......	......	62	53	57	58	......	75	68	......
1898												
January	64	......	......	......	65	55	59	61	......	74	63	......
February	66	......	......	......	68	61	61	63	......	76	65	......
March	65	......	......	......	63	62	59	60	......	75	66	......
April	63	......	......	......	60	63	64	61	......	71	63	......
May	69	......	......	......	69	74	78	71	......	75	64	......
June	68	......	......	......	68	66	73	68	......	78	62	......
July	62	......	......	......	65	59	63	65	......	75	62	......
August	58	......	......	......	62	58	64	64	......	70	61	......
September	53	......	......	......	58	58	60	55	......	64	60	......
October	57	......	......	......	65	61	61	59	......	70	64	......
November	62	......	......	......	66	61	61	60	......	73	65	......
December	64	......	......	......	67	59	61	59	......	72	65	......
1899												
January	67	......	......	......	55	59	60	61	......	72	63	......
February	70	......	......	......	60	64	62	63	......	72	64	......
March	69	......	......	......	63	63	62	64	......	68	64	......
April	67	......	......	......	64	65	62	63	......	76	63	......
May	65	......	......	......	64	62	64	64	......	67	63	......
June	64	......	......	......	65	62	65	65	......	69	63	......
July	62	......	......	......	67	60	65	65	......	75	62	......
August	56	......	......	......	64	55	61	62	......	70	61	......
September	55	......	......	......	63	59	61	63	......	73	64	......
October	60	......	......	......	70	64	63	66	......	79	67	......
November	63	......	......	......	71	69	64	66	......	79	68	......
December	61	......	......	......	68	67	62	65	......	77	68	......

TABLE 15 (*Continued*)—INDEX NUMBERS OF PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK

Date	Corn Meal	Gluten Feed	White Hominy	Oats	Bran	Standard Middl'gs	Red Dog	Flour Middl'gs	Wheat-Mixed Feed	Linseed Oil Meal	Cotton-seed Meal	Meat Scraps
1900												
January	66	......	......	......	66	66	63	66	......	76	66	......
February	66	......	......	......	66	65	62	63	......	77	69	......
March	69	......	......	......	64	63	64	64	......	81	72	......
April	72	......	......	......	68	66	65	66	......	82	69	......
May	69	......	......	......	65	66	66	64	——	82	69	......
June	71	......	......	......	71	67	68	67	71	84	67	......
July	72	......	......	......	70	65	71	70	69	85	69	......
August	64	......	......	......	67	65	66	65	69	79	68	......
September	62	......	......	......	68	66	66	66	68	78	78	......
October	67	......	......	......	72	69	65	68	71	84	82	......
November	67	......	......	......	71	68	65	67	70	88	83	......
December	68	......	......	......	69	67	66	67	69	86	82	......
1901												
January	72	......	......	......	67	65	66	67	69	85	78	......
February	74	......	......	......	68	66	67	68	70	81	78	......
March	77	......	......	......	75	73	71	73	74	82	79	......
April	80	......	......	......	78	75	71	71	77	78	76	......
May	78	......	......	......	74	72	70	69	75	80	70	......
June	76	......	......	......	78	73	72	70	75	82	72	......
July	81	......	......	......	77	70	70	71	75	84	74	......
August	85	......	......	......	77	73	72	74	77	85	75	......
September	80	......	......	......	77	75	72	70	76	81	77	......
October	86	......	......	......	79	76	76	77	77	83	81	......
November	93	......	......	......	86	85	81	83	84	81	79	......
December	100	......	......	......	98	99	89	92	97	83	83	......
1902												
January	96	91	97	......	92	96	88	87	97	88	88	......
February	94	83	88	......	83	85	79	80	88	88	88	......
March	97	84	86	......	79	80	79	75	83	88	88	......
April	96	84	88	......	77	77	78	75	81	85	83	......
May	92	85	90	......	87	86	85	82	87	86	92	......
June	96	86	91	......	93	90	87	87	89	89	89	......
July	95	91	96	......	91	88	90	91	90	92	90	......
August	82	81	85	......	72	84	83	76	76	84	86	......
September	82	79	79	......	68	68	75	68	71	81	80	......
October	85	84	80	......	76	73	80	69	74	80	85	......
November	85	86	77	......	76	73	80	68	76	80	86	......
December	84	84	79	......	74	72	79	69	76	81	87	......
1903												
January	84	90	81	......	78	77	81	76	81	82	89	......
February	82	88	82	......	82	81	83	79	83	81	91	......
March	78	92	80	......	83	83	85	73	84	83	89	......
April	72	83	69	......	76	76	76	64	76	81	85	......
May	76	83	74	......	73	72	77	71	73	82	80	......
June	81	86	84	......	88	82	82	78	84	81	82	......
July	78	90	84	......	79	76	83	75	83	79	81	......
August	75	86	78	......	73	73	83	77	78	72	78	......
September	73	84	75	......	76	77	84	80	78	72	78	......
October	71	89	77	......	81	82	86	82	81	71	85	......
November	73	90	78	......	79	78	81	77	78	69	84	......
December	74	87	81	......	78	76	79	77	77	69	84	......
1904												
January	80	83	80	......	80	79	79	81	79	69	81	......
February	81	82	81	......	84	84	82	82	85	72	80	......
March	84	80	82	......	85	86	81	82	86	79	88	......
April	84	82	79	......	84	86	82	83	86	76	87	......
May	80	84	79	......	94	93	87	88	92	76	78	......
June	79	83	80	......	90	86	82	83	88	77	77	......
July	77	86	81	......	83	81	81	81	84	77	80	......
August	78	76	82	......	83	86	84	83	86	75	78	......
September	74	78	78	......	84	85	84	84	84	79	80	......
October	77	87	81	......	88	83	83	84	84	85	85	......
November	85	88	83	......	85	80	79	80	82	84	87	......
December	80	85	84	......	84	80	80	79	85	88	82	......
1905												
January	77	83	79	......	78	76	77	78	82	82	79	......
February	76	81	74	......	73	73	74	76	79	81	80	......
March	83	88	80	......	76	76	78	77	80	89	83	......
April	80	92	79	......	74	74	80	75	78	88	82	......
May	80	84	79	......	94	93	87	88	92	76	78	......
June	86	89	82	......	79	74	78	75	76	92	81	......
July	86	93	83	......	75	69	75	71	72	93	80	......
August	80	83	76	......	71	65	73	68	70	87	77	......
September	76	81	71	......	68	62	72	65	68	88	78	......
October	82	87	76	......	72	66	72	66	68	87	85	......
November	82	91	79	......	74	70	74	70	70	90	89	......
December	75	89	81	......	74	72	74	72	73	91	93	......

TABLE 15 (*Continued*)—INDEX NUMBERS OF PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK

Date	Corn Meal	Gluten Feed	White Hominy	Oats	Bran	Standard Middl'gs	Red Dog	Flour Middl'gs	Wheat-Mixed Feed	Linseed Oil Meal	Cotton-seed Meal	Meat Scraps
1906												
January	79	89	79	......	75	75	76	77	77	92	94	......
February	75	85	76	......	75	77	78	78	79	91	95	......
March	79	82	80	......	75	75	79	78	80	89	97	......
April	82	87	87	......	81	81	83	82	85	88	96	......
May	81	88	87	......	87	80	84	83	82	90	95	......
June	85	89	89	......	87	81	85	83	83	92	97	......
July	82	94	86	......	79	79	85	81	80	94	96	......
August	75	86	78	......	74	74	81	78	77	92	93	......
September	71	83	76	......	74	74	79	77	76	92	92	......
October	78	89	81	......	86	81	82	79	82	91	91	......
November	74	93	80	......	93	87	86	83	88	91	96	......
December	73	94	83	......	90	86	84	84	89	88	95	......
1907												
January	77	98	80	......	85	82	82	82	86	83	92	88
February	81	91	84	......	89	86	85	85	89	83	91	88
March	84	94	88	......	91	88	88	87	90	87	91	87
April	80	95	90	......	89	88	86	88	91	86	86	87
May	83	97	91	......	92	92	87	85	90	89	83	87
June	89	99	93	......	99	95	90	87	98	92	90	87
July	85	104	90	......	94	89	89	89	93	92	90	87
August	81	96	90	......	93	91	90	89	93	87	88	87
September	89	98	94	......	106	103	95	97	108	88	91	86
October	99	106	103	......	115	111	100	101	111	97	98	86
November	92	109	100	......	108	102	98	96	105	93	94	85
December	96	105	100	......	101	97	98	93	102	89	93	85
1908												
January	98	101	102	117	99	97	99	97	102	92	91	88
February	96	100	97	115	94	97	98	96	102	91	91	88
March	104	104	105	122	104	104	104	100	102	97	90	87
April	106	110	104	119	105	105	104	104	104	95	90	87
May	108	112	106	124	111	109	102	100	107	95	93	87
June	113	110	106	117	110	106	99	100	107	97	94	87
July	112	117	104	124	104	96	97	94	103	96	97	87
August	107	107	105	126	101	97	99	99	105	92	90	87
September	102	103	105	118	98	93	99	98	99	94	89	86
October	108	108	103	120	97	92	98	99	98	94	94	86
November	101	107	102	109	99	94	96	96	96	94	96	85
December	97	103	106	111	96	93	97	96	96	95	95	85
1909												
January	95	101	101	115	93	92	100	98	97	94	90	88
February	97	100	102	116	101	101	104	103	106	94	93	88
March	106	104	109	121	102	102	106	106	108	98	97	87
April	105	104	110	124	103	103	105	105	106	98	101	87
May	110	99	114	128	113	111	109	107	111	99	102	87
June	110	103	115	127	114	108	110	106	112	105	106	87
July	107	108	113	122	106	99	108	102	109	105	106	87
August	98	98	102	106	99	91	103	94	100	99	99	87
September	92	97	95	99	96	89	100	91	96	95	98	86
October	94	101	97	101	100	92	103	97	96	98	109	86
November	97	101	99	99	98	93	96	99	93	100	111	85
December	102	99	103	106	100	98	96	94	90	103	111	85
1910												
January	104	104	107	117	105	103	104	98	103	108	111	88
February	101	108	104	112	102	102	104	100	101	108	113	88
March	102	111	101	107	97	98	104	100	99	108	111	89
April	96	104	92	102	89	89	100	98	93	104	105	89
May	98	105	90	99	88	90	99	98	93	104	103	89
June	88	100	85	94	90	93	98	99	92	102	101	89
July	93	98	86	96	101	99	95	102	98	105	97	89
August	92	94	89	95	98	96	94	101	96	109	98	89
September	82	93	82	88	91	90	91	94	93	110	98	93
October	81	91	85	86	94	95	92	94	93	108	100	94
November	80	89	85	85	96	101	95	96	94	103	99	94
December	82	88	84	85	99	104	95	97	98	101	97	94
1911												
January	84	85	84	83	98	100	94	99	98	100	93	99
February	87	85	84	84	97	96	94	98	97	100	92	101
March	81	85	84	81	96	95	94	100	97	99	89	101
April	79	88	87	82	104	102	97	100	101	102	90	101
May	86	91	93	84	105	102	96	97	101	102	90	101
June	89	92	95	92	104	102	96	98	101	105	92	101
July	93	96	99	102	104	102	99	97	101	106	94	101
August	90	100	97	95	103	105	101	98	101	105	96	101
September	92	98	94	103	104	109	102	99	102	106	94	100
October	99	107	103	116	107	111	104	102	106	112	100	99
November	104	107	111	117	108	110	106	104	107	113	98	98
December	105	110	111	116	107	108	104	103	106	112	98	98

TABLE 15 (*Continued*)—INDEX NUMBERS OF PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK

Date	Corn Meal	Gluten Feed	White Hominy	Oats	Bran	Standard Middl'gs	Red Dog	Flour Middl'gs	Wheat-Mixed Feed	Linseed Oil Meal	Cotton-seed Meal	Meat Scraps
1912												
January	112	110	110	117	108	108	110	109	107	112	94	102
February	114	109	117	122	115	115	110	111	111	115	99	101
March	116	107	118	127	114	115	110	111	112	113	101	101
April	125	111	119	133	116	118	109	111	113	119	102	101
May	119	107	116	132	117	117	109	111	112	115	103	101
June	116	108	109	122	108	109	110	106	108	107	101	101
July	110	114	107	117	108	112	111	107	109	94	99	101
August	107	102	102	110	97	104	107	103	102	99	95	101
September	107	94	103	95	97	101	105	105	100	96	97	100
October	101	94	100	87	98	97	103	102	100	98	102	99
November	96	94	99	83	92	89	97	96	97	95	103	98
December	96	94	98	84	91	89	98	93	93	92	103	98
1913												
January	89	98	94	86	92	92	95	94	93	91	99	102
February	85	96	90	86	86	88	95	91	91	88	97	101
March	86	91	87	86	81	84	95	87	87	86	97	101
April	90	88	91	87	81	82	93	85	86	84	98	101
May	90	91	94	89	85	86	91	90	88	86	100	101
June	97	93	99	96	91	90	95	92	93	88	101	101
July	97	100	97	94	91	88	94	92	92	91	107	101
August	99	94	98	101	96	91	93	94	97	89	111	101
September	107	106	108	103	104	102	96	102	101	92	112	100
October	111	106	107	103	100	103	96	100	101	92	104	101
November	112	103	97	104	100	101	96	97	100	92	107	103
December	110	103	102	101	98	97	95	97	99	90	107	103
1914												
January	111	104	105	98	97	97	97	100	100	89	103	110
February	112	102	105	96	101	99	97	101	100	89	99	109
March	115	106	110	99	112	109	98	103	105	93	102	109
April	110	109	110	97	110	109	102	105	106	92	104	109
May	106	106	108	97	106	105	105	105	105	93	104	109
June	109	107	112	96	107	106	102	105	106	98	104	109
July	107	111	111	91	96	99	101	102	101	103	103	109
August	112	111	114	99	107	104	104	105	104	98	99	109
September	111	109	113	111	104	98	106	100	104	95	99	108
October	107	103	105	109	101	94	106	101	99	89	95	107
November	108	107	108	111	104	99	106	106	103	97	92	106
December	107	105	105	114	104	102	113	110	103	105	94	106
1915												
January	116	105	110	121	103	103	119	117	108	112	93	110
February	126	106	124	127	104	104	119	118	108	119	102	109
March	122	99	118	127	97	97	108	109	102	110	104	109
April	114	102	117	128	102	105	116	115	106	95	104	109
May	110	103	120	127	97	100	109	113	106	94	99	109
June	112	104	118	118	105	110	117	116	109	97	97	109
July	117	109	122	120	108	114	124	125	112	105	97	109
August	114	98	114	123	101	109	115	118	108	108	95	109
September	102	95	107	85	91	91	99	98	98	108	96	108
October	103	97	105	89	94	89	95	95	100	110	113	107
November	101	95	101	89	91	87	93	93	98	112	115	107
December	109	98	105	98	94	93	94	94	98	114	125	107
1916												
January	114	105	109	117	88	90	95	98	96	114	120	110
February	118	106	115	115	90	97	106	104	97	106	117	109
March	112	104	112	112	88	93	104	100	95	100	115	109
April	107	111	112	112	90	92	101	96	97	93	113	109
May	103	101	111	105	92	94	103	100	98	90	109	109
June	104	100	105	99	97	93	104	98	99	100	108	109
July	103	106	108	98	93	87	99	92	98	106	107	109
August	115	101	113	105	98	93	106	102	101	106	106	109
September	124	103	121	114	104	101	108	108	104	107	114	108
October	132	116	127	124	120	121	123	123	118	115	126	107
November	149	139	146	136	134	138	141	139	134	131	146	107
December	148	140	153	131	125	130	153	132	134	141	147	97
1917												
January	166	132	160	142	130	132	158	144	136	139	137	110
February	167	135	164	157	147	148	171	160	145	140	139	109
March	176	146	171	168	157	159	161	168	146	138	134	109
April	205	164	206	176	172	174	168	174	170	135	137	118
May	237	177	208	171	162	164	176	173	169	144	140	128
June	243	163	198	154	140	147	179	176	158	149	147	132
July	259	180	212	175	153	169	188	183	167	156	160	166
August	263	192	229	165	158	174	201	194	171	154	158	167
September	263	179	193	152	140	147	188	169	150	145	156	175
October	264	188	205	149	153	160	194	180	158	156	168	177
November	294	192	222	189	161	168	201	187	168	160	180	172
December	294	198	235	189	184	180	200	178	181	170	185	182

TABLE 15 (*Continued*)—INDEX NUMBERS OF PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK

Date	Corn Meal	Gluten Feed	White Hominy	Oats	Bran	Standard Middl'gs	Red Dog	Flour Middl'gs	Wheat-Mixed Feed	Linseed Oil Meal	Cotton-seed Meal	Meat Scraps
1918												
January	289	192	237	201	139	146	167	156	......	164	169	207
February	283	192	242	214	138	146	167	155	182	162	175	206
March	280	201	264	232	139	147	172	157	......	175	174	224
April	240	203	221	223	144	151	175	161	......	166	171	209
May	203	197	192	197	133	139	145	......	......	153	166	199
June	217	194	201	188	152	148	115	......	......	156	164	186
July	239	203	236	182	137	132	115	......	......	171	170	187
August	214	192	225	174	149	142	122	......	......	167	165	191
September	212	195	204	178	147	142	118	......	......	162	201	191
October	207	206	208	181	152	147	121	......	......	168	211	187
November	199	203	205	181	148	148	119	......	......	171	219	202
December	226	207	237	189	180	187	169	214	210	175	222	202
1919												
January	222	211	247	179	208	213	214	210	206	194	209	198
February	200	198	200	153	176	176	189	178	172	179	214	197
March	229	200	223	165	173	177	195	179	171	190	219	197
April	250	221	249	176	178	190	200	188	176	197	221	197
May	254	228	254	176	175	195	210	195	187	207	216	197
June	267	232	264	170	170	191	212	194	191	215	228	187
July	283	257	286	188	190	208	220	206	201	234	260	187
August	267	278	269	185	198	220	228	219	210	258	272	197
September	216	252	221	178	178	218	222	213	205	223	241	199
October	213	238	202	185	181	201	220	203	197	211	252	197
November	223	246	224	188	188	192	219	202	191	220	274	192
December	233	240	246	208	195	197	214	202	193	230	271	192
1920												
January	243	242	241	219	186	192	212	202	188	227	261	198
February	241	241	242	219	193	209	223	211	195	219	265	197
March	261	257	256	229	209	228	239	226	215	214	252	219
April	267	276	254	253	221	236	243	233	221	190	234	216
May	298	284	276	277	245	253	253	243	240	203	250	216
June	294	282	279	276	257	254	251	244	249	208	247	219
July	256	263	257	243	233	231	247	240	243	204	226	212
August	240	233	229	197	199	218	245	236	224	186	202	235
September	204	219	204	173	203	209	245	236	207	179	198	235
October	165	182	157	155	171	165	218	195	178	175	183	218
November	155	189	157	147	171	158	192	176	163	158	162	226
December	152	204	158	141	145	133	158	142	148	133	136	213
1921												
January	141	170	135	133	137	127	146	135	140	129	129	212
February	131	141	116	127	117	114	132	120	121	129	126	194
March	134	153	120	125	120	115	135	126	123	136	124	194
April	116	142	110	113	98	92	118	106	109	121	120	170
May	124	123	117	116	98	94	113	103	111	104	129	170
June	116	123	119	111	102	95	116	107	106	113	131	170
July	115	139	113	105	95	87	119	101	102	134	151	170
August	106	130	111	102	90	89	125	106	102	135	149	170
September	98	123	101	108	84	82	123	103	95	129	149	169
October	94	137	96	109	84	82	120	101	92	123	157	164
November	96	128	101	109	95	94	122	107	101	131	154	158
December	106	151	111	107	118	116	120	114	119	146	162	158
1922												
January	96	135	100	106	115	115	138	135	118	148	149	165
February	105	126	102	108	129	128	137	137	132	159	161	167
March	110	135	106	103	127	135	145	142	133	176	177	168
April	106	141	103	104	122	125	145	143	124	166	181	168
May	104	145	109	103	119	118	140	141	128	171	186	168
June	106	138	107	97	107	105	129	130	112	161	180	164
July	108	137	114	96	104	103	125	99	104	154	165	160
August	101	123	108	92	94	94	120	115	98	137	136	162
September	96	122	104	102	103	99	111	111	100	133	134	169
October	109	138	116	116	125	122	119	121	115	151	157	170
November	115	151	125	121	131	129	127	127	129	163	179	175
December	127	156	131	127	131	127	128	123	128	162	181	177
1923												
January	130	160	134	126	132	131	......	128	130	165	172	184
February	134	160	132	124	137	137	......	132	134	167	173	185
March	136	167	131	124	140	140	......	137	138	168	173	178
April	139	156	132	125	141	140	......	137	137	143	166	171
May	136	158	140	122	138	143	......	136	138	146	165	171
June	141	158	139	117	124	133	......	134	133	144	159	169
July	141	167	135	112	118	127	......	128	129	145	162	160
August	133	159	130	109	126	122	......	123	130	144	152	159
September	129	162	129	115	144	133	......	126	135	141	160	157
October	155	178	149	125	153	140	......	128	138	142	171	161
November	146	177	147	127	141	133	......	124	134	141	184	162
December	133	161	136	128	136	129	......	122	129	142	177	162

TABLE 15 (*Continued*)—INDEX NUMBERS OF PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK

Date	Corn Meal	Gluten Feed	White Hominy	Oats	Bran	Standard Middl'gs	Red Dog	Flour Middl'gs	Wheat-Mixed Feed	Linseed Oil Meal	Cotton-seed Meal	Meat Scraps
1924												
January	137	151	133	132	130	130	125	127	128	139	165	165
February	143	138	130	132	123	124	130	125	126	130	160	157
March	146	139	130	131	118	117	128	121	123	138	159	144
April	141	134	128	131	116	114	122	115	113	135	154	130
May	135	135	140	129	101	100	125	110	113	134	153	125
June	142	150	141	131	117	111	133	118	117	139	162	118
July	162	165	154	136	131	128	138	125	130	146	168	118
August	166	153	158	132	131	126	140	125	134	149	160	122
September	159	155	148	127	128	115	138	125	131	145	153	117
October	163	162	150	139	139	135	146	136	133	147	161	144
November	169	160	155	139	141	141	155	143	141	146	158	134
December	188	156	187	152	155	157	160	151	153	146	156	132
1925												
January	200	153	196	156	150	162	164	160	148	144	147	132
February	198	136	173	145	128	134	158	142	134	135	146	132
March	197	137	165	134	119	124	157	133	128	132	146	128
April	177	141	160	123	123	126	158	135	128	129	146	127
May	182	147	163	128	138	141	163	147	145	142	150	121
June	178	159	162	131	149	154	168	151	152	153	152	120
July	167	166	151	123	137	132	156	139	143	157	159	126
August	152	154	139	116	132	129	150	138	141	154	162	131
September	133	149	120	113	127	129	148	136	137	140	149	140
October	130	147	114	117	129	124	145	131	136	139	142	143
November	138	155	125	120	140	135	150	135	142	144	141	145
December	135	151	128	124	139	132	150	126	140	151	140	151
1926												
January	142	150	128	127	134	133	145	131	138	151	132	157
February	136	138	118	118	123	123	137	123	132	144	132	158
March	133	132	116	116	116	116	128	117	122	142	130	152
April	129	135	120	116	129	127	128	124	131	157	127	......
May	120	138	112	111	124	116	127	120	129	154	127	......
June	121	140	111	110	125	117	126	117	126	154	127	......

FOOT-NOTES

This study was made possible through the cooperation of the American Feed Manufacturers' Association, Chicago, Ill.; American Milling Co., Peoria, Ill.; American Poultry Journal, Chicago, Ill.; Archer-Daniels-Midland Co., Minneapolis, Minn.; Armour & Co., Chicago, Ill.; Bureau of Agricultural Economics, Washington, D. C.; Boston Chamber of Commerce, Boston, Mass.; Chapin & Co., Chicago, Ill.; Cooperative Grange League Federation Exchange Inc., Ithaca, N. Y.; Corn Products Refining Co., New York City, N. Y.; Darling & Co., Chicago, Ill.; Department of Farms and Markets, Albany, N. Y.; Empire Grain and Elevator Co., Binghamton, N. Y.; Humphreys-Gowdin Co., Memphis, Tenn.; Jacob Dold Packing Co., Buffalo, N. Y.; Larrowe Milling Co., Detroit, Mich.; Marianna Sales Co., Memphis, Tenn.; Maryland State Dairymen's Association, Baltimore, Md.; Memphis Merchants Exchange, Memphis, Tenn.; New York Central Railroad Co., New York City, N. Y.; Northwestern Miller, Minneapolis, Minn.; Oyster Shell Products Corporation, New York City, N. Y.; Park and Pollard, Buffalo, N. Y.; Peerless Oyster Co., Baltimore, Maryland; E. A. Perregaux, Professors E. G. Misner and H. A. Ross, Cornell University; Spencer, Kellogg & Sons, Inc., Buffalo, N. Y.; C. V. Russell, Jersey City, N. J.; Syracuse Rendering Co., Syracuse, N. Y.; Swift & Co., Chicago, Ill.; The Quaker Oats Co., Chicago, Ill.; The United Chemical and Organic Products Co., Chicago, Ill.; Van Iderstine Co., Long Island City, N. Y.; Washburn Crosby Co., Buffalo, N. Y.; and Wilson & Co., Chicago, Ill.

Prices from 1897 to 1921, inclusive, are Buffalo prices with freight to Utica added. The Buffalo prices are from the Northwestern Miller, Minneapolis, Minn., except as follows:

Prices for standard middlings from 1897 to May, 1900, inclusive, are New York City quotations from the Statistical Reports of the New York Produce Exchange. For five years, 1901 to 1905, the Northwestern Miller quotations adjusted to the Utica basis were 1 per cent over the New York quotations. Prices here published are New York quotations plus 1 per cent.

Prices for linseed oil meal from 1897 to 1901, inclusive, are New York City quotations from the Statistical Report of the New York Produce Exchange. For ten years, 1902 to 1911, the Northwestern Miller quotation, adjusted to the Utica basis, were 0.4 per cent above the New York City quotations. Prices here published are New York quotations plus 0.4 per cent.

Prices for cottonseed meal from 1897 to 1901, March to July, 1902, May to October, 1903, May to November, 1904, and November to December, 1905, are New York City quotations from the Statistical Reports of the New York Produce Exchange. For 18 months during 1902 to 1904, the Northwestern Miller quotations, adjusted to the Utica basis, were 2.72 per cent above the New York City quotations. Prices here reported are New York quotations plus 2.72 per cent.

Prices for wheat-mixed feed, from January, 1910, to December, 1920, inclusive, are Boston quotations from the Weekly Market Report of the Boston Chamber of Commerce. For 36 months during the five years, 1921-1926, the Utica prices were 94.89 per cent of the Boston price. For the six years, 1904-1909, the Northwestern Miller quotations adjusted to a Utica basis, were 94.99 per cent of the Boston price. Prices here published are Boston quotations minus 5 per cent.

Prices for ground oats since 1921, are prices in assorted cars at Utica, New York. The Cooperative Grange League Federation Exchange Inc. states that the price in straight cars is the same as in assorted cars. For the five years, 1921-25, the prices in sacks in assorted cars at Utica were 5 per cent higher than the Binghamton bulk quotations. The figures here given prior to 1921 are Binghamton quotations in bulk plus 5 per cent.

FOOT-NOTES—(Continued)

Prices of bran for 1897 and 1898 were Minneapolis prices plus "all rail" freight to Utica and $1.00 commission.

Prices for the following months, inclusive, are estimated by comparison with other quotations: cottonseed meal, June, 1906, to May, 1907, July to August, 1918; November to December, 1920; Linseed oil meal, August, 1909, October, 1911, April to December, 1919, June to August, 1922, Hominy, September, 1910, to April, 1911, December, 1919; Gluten, December, 1919, to February, 1920; Red dog, September and October, 1918; Flour Middlings, July to October, 1911.

Prices for 1922 and later are furnished by the Cooperative Grange League Federation Exchange Inc.

All prices here published include sacks. The same feeds in bulk in recent years usually cost from $2 to $3 per ton less.

Corn meal is whole corn ground. For 1922 and later, prices for mixed and for straight cars are the same.

Prices for gluten, hominy and red dog for 1902 to 1903, inclusive, were in bulk. It is estimated that at that time it would have cost $1 per ton more in sacks. Prices here given are $1 above the quotations. Gluten feed is guaranteed 23 per cent protein by most of the manufacturers.

Hominy quotations are for white hominy. Yellow hominy usually sells for $1 per ton more. Hominy contains about 10 per cent protein.

Bran and standard middlings include screenings not exceeding mill run. Bran consists of the coarse outer coating of wheat. Standard middlings contain the finer particles of bran and some flour. Flour middlings contain more flour and less bran. Red dog is a low-grade dark flour. Wheat-mixed feed is the entire mill run of by-products.

Nearly all the linseed oil meal in the United States is "old process" and the average analysis is 33.9 per cent protein (Report of the Federal Trade Commission on Commercial Feeds, p. 53, March 29, 1921.) Where different grades are quoted, the price on the 34 per cent grade is used.

The composition of cottonseed meal before September, 1918, was not given, but by comparison with other quotations for which the composition was given, it appears that the grade was 41 to 43 per cent protein. From September, 1918, to September, 1920, inclusive, prices were for the 36 per cent grade. For 1921 and 1922, quotations for the 43 per cent grade averaged 8 per cent above those for the 36 per cent grade. Prices here given for September, 1918, to September, 1920, are 8 per cent above the quotations for the 36 per cent grade. Prices since September, 1920, are for the 43 per cent grade.

Prices of meat scrap from January, 1914, to December, 1920, inclusive, are Buffalo prices quoted by the Jacob Dold Packing Company. Since 1921, prices are those quoted by the Cooperative Grange League Federation Exchange, Inc. In each case the 6th class freight rate from Buffalo, New York, to Utica, New York, were added. Prices prior to 1914 are western prices adjusted to a Utica basis.

Prices of dried beet pulp from January, 1909, to 1926, were furnished by the Larrowe Milling Company, Detroit, Michigan, with freight rate from Buffalo to Utica added.

Prices of oyster shell, which were obtained from records of sales of the Peerless Oyster Co. of Baltimore, Maryland, are F. O. B. Baltimore.

The ration used in calculating the dairy ration index number is: ground oats, 15 per cent; corn meal, 10; hominy, 5; wheat bran, 15; wheat middlings, 5; wheat-mixed feed, 5; gluten feed, 30; cottonseed meal, 10; and linseed oil meal, 5. When the quotation for any feed is missing, the index is for the other feeds in the proportions indicated.

In six dairy regions, reports for which are published, the concentrates fed to dairy cattle were home-grown oats, 9.9 per cent; other home-grown grains, 5.9 per cent; purchased oats, 8.5; corn, 8.2; hominy, 3.1; bran, 9.5; standard middlings, 1.9; wheat-mixed feed, 3.7; gluten feed, 15.4; oil meal, 3.7; cottonseed meal, 2.8; and proprietary mixed feed, 27.4. Considerable cottonseed meal is included in the mixed feeds. Probably this justifies giving cottonseed meal a weight of 10 per cent.

Misner, E. G., Economic Studies of Dairy Farming in New York I, Condensery Milk Without Cash Crops, Cornell University Agricultural Experiment Station Bul. 421, p. 33, June, 1923. Misner, E. G. An Econmic Study of Dairying on 163 Farms in Herkimer County, New York, Cornell University Agr. Exp. Sta. Bul. 432, p. 7, September, 1924. Misner, E. G. Economic Studies of Dairy Farming in New York II. Grade A Milk With and Without Cash Crops, Cornell University Agr. Exp. Sta. Bul. 433, p. 62, October, 1924. Misner, E. G. Economic Studies of Dairy Farming in New York III. Grade B Milk With Alfalfa Roughage, Cornell University Agr. Exp. Sta., Bul. 438, p. 36, March, 1925. Misner, E. G., Economic Studies of Dairy Farming in New York. IV, Grade B Milk With Cash Crops and Mixed Hay Roughage, Crop Year 1921. Cornell University Agr. Exp. Sta., Bul. 441, p. 25, August, 1925. Misner, E. G., Economic Studies of Dairy Farming in New York. V. Cheese-Factory Milk. Cornell University Agr. Exp. Sta., Bul. 442, p. 22, September, 1925.

The ration used in calculating the poultry ration index number is meat scrap, 10 per cent; standard middlings, 10; bran, 10; corn meal, 10; cracked corn, 25; wheat, 25; oats, 5; and barley, 5. Corn meal prices have been used for cracked corn. This results in a very slight error as the price of cracked corn is usually a little higher than the price of corn meal. The weights agree closely with the feeds used on commercial farms as reported by Warren, G. F.; Hart, Van B.; Myers, W. I.; Gillett, R. L.; Noble, C. V.; and others. Cost Accounts for Six Years on Some Successful New York Farms, Cornell University Agricultural Experiment Station, Bul. 414, p. 93-94, February, 1923. The New York farm prices of oats, barley, and wheat were used. Before 1910 the farm prices are available for December 1, only. The farm prices for July to June were assumed to bear the same ratio to December farm prices that New York City prices for July to June bear to the December prices in New York City. When the quotations for any feed are missing, the index is for the other feeds in the proportions indicated.

Index numbers of seasonal variation for the five year periods are in each case a simple index uncorrected for secular trend. The index numbers of seasonal variation for the longer period are in each case corrected for secular trend.

TABLE 16.—INDEX NUMBERS OF SEASONAL VARIATION IN PRICES OF FEED (FROM TABLES 1 TO 14)

Yearly average price = 100.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Corn Meal												
1897-1913	95	94	94	97	100	101	103	105	106	104	102	99
1900-04	94	94	94	97	98	100	103	105	105	103	105	102
1905-09	90	89	93	96	101	105	106	106	107	107	102	98
1910-14	94	94	92	95	98	98	101	108	112	106	103	99
1921-25	98	98	98	95	99	99	103	105	102	101	101	101
Gluten Feed												
1902-14	105	105	101	97	95	96	96	100	103	100	100	102
1905-09	102	101	100	98	95	97	98	99	102	102	102	104
1910-14	105	106	102	97	95	96	91	102	106	100	98	102
1921-25	110	100	101	94	91	93	96	99	102	103	103	108
White Hominy												
1902-14	99	97	96	94	98	100	100	104	108	104	101	99
1900-04	98	95	92	91	95	99	103	106	106	105	105	105
1905-09	95	93	95	95	100	103	101	103	106	105	102	102
1910-14	99	98	95	93	97	97	98	105	111	105	102	100
1921-25	105	98	94	91	99	100	100	104	102	100	102	105
Spring Bran												
1897-1913	103	105	105	103	104	98	96	96	97	96	97	100
1900-04	103	104	104	101	103	100	97	95	96	96	98	103
1905-09	99	101	104	103	106	100	95	96	97	98	100	101
1910-14	105	106	105	104	102	93	94	100	100	95	96	100
1921-25	112	108	106	100	98	91	90	92	95	97	101	110
Standard Middlings												
1897-1913	100	102	102	101	102	98	98	102	101	99	97	98
1900-04	101	100	101	98	100	99	99	105	101	99	97	100
1905-09	97	99	102	102	104	101	98	100	100	99	99	99
1910-14	101	101	100	99	99	96	100	105	105	99	97	98
1921-25	110	106	104	97	96	94	95	97	96	98	101	106
Red Dog												
1897-1913	100	99	97	96	99	99	101	103	104	103	100	99
1900-04	98	96	96	93	97	99	102	104	105	105	102	103
1905-09	96	96	97	98	99	100	101	103	104	105	101	100
1910-14	100	98	97	96	97	97	100	104	106	103	101	101
Flour Middlings												
1897-1913	100	101	99	97	100	99	100	103	102	101	99	99
1900-04	99	98	96	93	98	100	103	104	108	103	100	103
1905-09	97	99	100	100	100	100	99	101	102	102	101	99
1910-14	99	99	98	97	98	97	100	104	105	102	100	101
1921-25	107	103	102	98	99	98	93	100	99	99	101	101
Wheat-Mixed Feed												
1901-13	103	104	104	102	100	99	97	98	98	98	97	100
1905-09	100	103	104	103	101	100	97	98	98	99	98	99
1910-14	102	103	103	101	99	96	96	100	102	99	99	100
Linseed Oil Meal												
1897-13	102	102	100	99	98	96	97	100	102	102	101	101
1900-04	101	102	101	98	98	97	98	100	101	102	100	102
1905-09	98	98	98	98	98	99	99	101	104	103	102	102
1910-14	102	103	98	99	98	95	95	102	104	102	101	101
1921-25	103	103	103	96	95	94	98	102	100	100	101	105
Cottonseed Meal												
1897-1913	100	99	99	100	99	100	100	102	102	100	100	99
1900-04	100	99	101	100	97	97	99	101	103	102	101	100
1905-09	97	96	97	98	99	102	103	101	102	101	102	102
1910-14	101	98	98	100	101	101	100	105	105	97	97	97
1921-25	99	97	98	98	101	101	104	102	100	99	101	100
Ground Oats												
1908-14	98	100	101	102	105	105	107	103	98	94	98	94
1910-14	97	99	99	100	102	103	105	104	100	97	97	97
1921-25	105	105	101	99	101	102	100	95	94	97	99	102
Dried Beet Pulp												
1910-14	99	100	100	100	100	100	100	100	98	101	101	101
Meat Scrap												
1910-14	99	99	100	100	100	99	99	99	100	101	102	102
1921-25	109	106	104	98	97	95	94	95	97	102	101	102
Oyster Shell												
1910-14	100	100	100	100	100	100	100	100	100	100	100	100
1921-25	100	99	101	102	102	100	100	101	99	98	98	100

TABLE 17.—INDEX NUMBERS OF PRICES OF A DAIRY RATION IN STRAIGHT CARS AT UTICA, NEW YORK*—1897-1926

(Corresponding months, 1910-14 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
1897	53	55	58	57	55	57	56	58	60	61	63	63	58
1898	64	67	65	63	69	68	64	61	58	63	65	66	64
1899	62	65	65	66	64	64	65	61	62	67	69	67	64
1900	67	68	69	70	69	71	71	68	70	74	74	73	70
1901	72	73	77	78	75	76	77	79	78	81	85	94	79
1902	92	86	85	84	88	90	91	80	77	81	82	81	85
1903	85	85	86	79	78	85	83	79	79	82	82	81	82
1904	80	82	83	83	85	83	82	79	80	85	86	84	83
1905	80	78	83	83	81	84	84	78	76	81	83	83	81
1906	84	82	82	86	87	88	88	82	80	86	90	89	85
1907	87	88	91	90	91	95	95	91	97	106	103	100	95
1908	101	99	105	107	110	109	110	106	102	105	102	101	105
1909	99	102	106	107	109	111	109	99	96	100	100	102	103
1910	107	107	106	99	99	95	97	96	92	91	91	91	98
1911	89	89	88	91	93	95	99	99	100	107	108	109	97
1912	109	112	113	117	115	110	110	102	97	96	93	93	106
1913	93	91	88	88	90	94	97	98	105	104	103	102	96
1914	101	101	106	106	104	105	103	106	106	102	105	105	104
1915	108	112	107	110	106	107	111	106	95	98	97	102	105
1916	106	107	104	105	101	100	101	104	109	121	139	138	111
1917	139	147	154	170	175	165	180	185	171	179	193	200	171
1918	191	193	201	194	179	182	186	180	183	189	188	203	189
1919	207	187	194	207	210	213	235	243	218	213	221	226	214
1920	226	228	240	249	267	268	245	216	202	172	168	162	220
1921	145	129	133	119	116	115	120	115	111	115	115	130	122
1922	122	126	131	131	132	125	122	110	112	129	140	144	127
1923	145	146	149	145	145	141	142	138	143	156	154	146	146
1924	141	135	135	131	128	138	150	146	143	151	152	159	143
1925	159	145	141	139	147	154	151	143	135	134	141	140	143
1926	139	130	126	130	127	127	......	......	......	......	......	......	......

*For method of calculation, see page 486.

TABLE 18.—INDEX NUMBERS OF PRICES OF A POULTRY RATION IN STRAIGHT CARS AT UTICA, NEW YORK, 1897-1926

(Corresponding Months, 1910-14 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
1897	63	61	63	62	61	60	58	65	67	66	67	69	64
1898	71	75	73	74	90	73	68	65	60	63	66	67	70
1899	68	71	70	70	68	67	68	65	65	69	70	69	68
1900	71	71	71	72	70	73	72	69	69	71	71	71	71
1901	73	74	77	78	76	74	76	80	78	81	87	95	79
1902	92	88	88	86	87	89	89	81	76	80	80	80	85
1903	82	82	81	76	77	82	78	78	77	77	77	78	79
1904	83	87	88	86	86	84	84	90	89	90	93	89	87
1905	88	86	88	83	82	87	87	81	75	80	81	79	83
1906	81	78	78	81	82	84	81	76	74	75	81	80	79
1907	81	85	86	84	90	94	89	90	98	105	98	100	92
1908	101	97	103	103	105	106	107	106	100	102	101	99	103
1909	98	101	106	107	112	112	111	105	95	98	100	105	104
1910	105	104	104	100	99	95	97	98	93	92	92	92	97
1911	91	92	89	89	92	93	94	95	97	100	104	104	95
1912	107	109	110	114	113	112	111	108	103	100	96	96	107
1913	94	91	91	92	93	96	96	97	101	103	103	102	96
1914	103	104	107	105	103	104	101	103	107	105	106	106	105
1915	111	121	121	118	117	117	113	111	101	100	99	103	111
1916	106	111	107	104	103	103	101	108	120	130	145	143	115
1917	148	157	162	182	209	212	218	222	210	213	224	228	199
1918	223	220	222	205	190	197	201	196	195	194	192	208	203
1919	210	197	204	213	218	221	232	229	211	206	209	213	213
1920	217	223	237	242	264	275	244	234	216	189	178	161	223
1921	152	143	142	126	122	122	117	112	109	105	106	113	122
1922	110	116	123	120	120	116	112	107	105	115	121	128	116
1923	133	135	137	137	137	136	131	126	129	137	133	128	133
1924	129	130	129	124	118	122	136	143	137	146	151	162	136
1925	172	169	165	151	158	160	150	143	137	132	139	141	151
1926	146	142	136	132	128	128	......	......	......	......	......	......	......

*For method of calculation, see page 486.

TABLE 19.—FREIGHT RATES ON MILL FEEDS IN CAR LOTS*

(Cents per 100 pounds)

Chicago, Illinois, to Buffalo, New York		Minneapolis, Minnesota, to Buffalo, New York		Buffalo, New York, to Utica, New York		Chicago, Illinois, to New York City	
Date	Rate	Date	Rate	Date	Rate	Date	Rate
Apr. 13, 1896	12.5	Jan. 1, 1896	22.5	Jan. 1, 1897	7.0	Nov. 1, 1899	22.0
Oct. 15, 1897	14.0	Oct. 25, 1897	24.0	Jan. 1, 1900	8.0	March 5, 1900	15.0
Jan. 1, 1898	12.5	March 11, 1898	15.5	March 11, 1900	7.0	Nov. 1, 1900	17.5
June 27, 1898	11.0	April 1, 1898	20.0	June 11, 1900	6.0	June 1, 1901	15.0
Nov. 10, 1898	12.5	April 16, 1898	17.5	Nov. 1, 1900	7.0	Oct. 21, 1901	17.5
April 18, 1899	10.5	May 11, 1898	18.5	Dec. 12, 1902	8.0	Dec. 8, 1902	20.0
Sept. 18, 1899	12.5	May 24, 1898	17.5	May 10, 1904	7.0	May 11, 1903	18.0
Nov. 1, 1899	13.5	June 6, 1898	18.5	Dec. 5, 1904	7.5	Dec. 1, 1903	20.0
March 5, 1900	9.5	July 25, 1898	17.5	Feb. 6, 1905	7.0	May 3, 1904	17.5
Nov. 1, 1900	11.0	Aug. 15, 1898	18.5	April 15, 1907	8.0	Dec. 5, 1904	20.0
June 1, 1901	9.5	Nov. 10, 1898	20.5	Dec. 3, 1908	7.0	Feb. 1, 1905	17.5
Oct. 21, 1901	11.0	Jan. 2, 1899	20.0	Aug. 10, 1910	8.0	March 8, 1905	15.0
Dec. 8, 1902	12.5	April 18, 1899	18.0	Feb. 23, 1915	8.4	Sept. 1, 1905	17.5
May 11, 1903	11.0	Sept. 18, 1899	20.0	April 30, 1918	9.5	May 1, 1907	17.5
Dec. 1, 1903	12.5	Nov. 1, 1899	21.0	June 25, 1918	12.0	May 1, 1908	17.5
May 2, 1904	11.0	March 20, 1900	17.0	Aug. 26, 1920	17.0	Feb. 1, 1910	17.5
Dec. 5, 1904	12.5	Nov. 1, 1900	18.5	Jan. 1, 1922	15.5	Aug. 15, 1912	17.5
Feb. 1, 1905	11.0	May 23, 1901	17.0	April 22, 1926	15.5	Jan. 8, 1914	17.5
May 1, 1907	12.0	Oct. 21, 1901	18.5			Jan. 20, 1915	18.4
Feb. 1, 1910	[1]10.5	Jan. 1, 1903	20.0			March 25, 1918	21.0
March 1, 1911	15.0	May 11, 1903	18.5			June 25, 1918	26.5
May 1, 1912	[1]10.5	Dec. 1, 1903	20.0			Dec. 31, 1918	26.5
March 15, 1913	15.0	May 2, 1904	18.5			Aug. 26, 1920	37.0
Feb. 23, 1915	15.5	June 3, 1904	16.5			Sept. 28, 1921	32.5
June 7, 1918	17.0	July 1, 1904	18.5			Jan. 1, 1922	32.5
June 28, 1918	21.5	Dec. 5, 1904	20.0				
Aug. 26, 1920	30.0	Feb. 1, 1905	18.5				
July 1, 1922	27.0	May 11, 1905	17.0				
April 22, 1926	27.0	Sept. 1, 1905	18.5				
		Nov. 16, 1914	19.7				
		Jan. 23, 1915	19.0				
		June 5, 1918	20.3				
		June 25, 1918	25.5				
		Feb. 28, 1920	[2]26.0 [3]34.0				
		Aug. 26, 1920	[2]36.0 [3]46.5				
		Jan. 1, 1922	[2]32.5 [3]41.5				
		July 1, 1922	[2]30.5 [3]39.5				
		April 22, 1926	[2]30.5 [3]39.5				

[1] Reshipping rate. [2] Proportional. [3] Local.

TABLE 20.—FREIGHT RATE ON MEAT SCRAP*

(Cents per 100 pounds)

Chicago, Illinois to Buffalo, New York		Buffalo, New York to Utica, New York		
Date	Carload rate	Date	6th class carload rate	4th class less than carload rate
January 1, 1902	15.0	July 1, 1907	10.0	15.0
October 26, 1914	15.8	Feb'y 23, 1915	10.5	15.8
Sept. 20, 1917	17.5	August 1, 1917	12.0	18.0
June 25, 1918	22.0	June 25, 1918	15.0	22.5
Feb. 29, 1920	21.5	August 26, 1920	21.0	31.5
August 26, 1920	30.0	July 1, 1922	19.0	28.5
Dec. 5, 1920	30.5			
July 1, 1922	27.5			

*Data furnished by the Bureau of Agricultural Economics of the United States Department of Agriculture, by the New York Central railroad, by the American Feed Manufacturers and by the New York Department of Farms and Markets.

TABLE 21.—PRICES PAID TO PRODUCERS FOR MILK IN NEW YORK STATE*—1860-1896
(cents per quart)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
1860	......	......	......	......	......	......	......	......	......	......	......	......	2.50
1861	......	......	......	......	......	......	......	......	......	......	......	......	2.50
1862	......	......	......	......	......	......	......	......	......	......	......	......	2.50
1863	......	......	......	......	......	......	......	......	......	......	......	......	3.25
1864	......	......	......	......	......	......	......	......	......	......	......	......	4.95
1865	......	......	......	......	......	......	......	......	......	......	......	......	7.00
1866	......	......	......	......	......	......	......	......	......	......	......	......	5.00
1867	......	......	......	......	......	......	......	......	......	......	......	......	5.10
1868	6.00	6.00	5.25	4.50	3.50	3.00	3.25	4.00	4.00	5.00	6.50	7.00	4.83
1869	5.00	5.00	4.50	4.50	3.50	3.00	3.50	4.00	5.00	6.00	6.00	6.00	4.67
1870	5.00	4.50	4.00	4.00	3.50	3.00	3.75	4.00	4.00	6.00	6.00	6.00	4.48
1871	4.50	4.50	4.50	4.00	3.00	3.00	3.00	3.00	3.00	3.50	5.00	5.00	3.83
1872	5.00	4.00	4.00	4.00	3.00	3.00	3.00	3.00	3.00	4.00	5.00	5.00	3.83
1873	4.00	4.00	4.00	4.00	2.75	2.75	3.00	3.00	3.00	4.00	4.50	4.00	3.58
1874	4.00	4.00	4.00	3.25	3.00	2.75	3.00	3.00	3.25	3.75	4.00	4.75	3.56
1875	4.00	4.00	4.00	3.25	3.00	2.75	3.00	3.00	3.00	4.00	4.50	4.50	3.58
1876	4.00	4.00	3.75	3.00	2.75	2.50	3.00	3.00	3.00	3.50	4.00	4.00	3.38
1877	4.00	4.00	3.25	3.00	2.50	2.50	2.50	2.50	3.00	4.00	4.00	4.00	3.27
1878	3.50	3.25	3.00	2.50	2.00	2.00	2.00	2.00	2.50	2.50	3.00	3.00	2.60
1879	2.50	2.50	2.50	2.00	2.00	2.00	2.00	2.00	2.00	2.50	3.00	3.00	2.33
1880	3.00	3.00	3.00	2.50	2.00	2.00	2.50	2.50	3.00	3.00	4.00	4.00	2.88
1881	3.50	3.00	3.00	2.75	2.00	2.00	2.00	2.00	3.00	4.00	4.00	4.00	2.94
1882	4.00	4.00	3.00	3.00	2.50	2.50	2.50	3.00	3.50	3.50	3.50	4.00	3.25
1883	3.50	3.50	3.25	3.00	2.50	2.50	3.00	3.00	3.50	3.50	4.00	4.00	3.27
1884	4.00	3.50	3.00	3.00	2.50	2.25	2.50	2.50	3.00	3.00	3.75	3.50	3.04
1885	3.25	3.00	3.00	2.75	2.25	2.00	2.25	2.87	2.50	2.50	3.25	3.84	2.79
1886	3.50	3.00	3.00	2.75	2.15	2.00	2.00	2.25	2.50	3.50	3.50	3.50	2.80
1887	3.25	3.00	3.00	2.50	2.32	2.00	2.40	2.50	2.50	3.25	3.50	3.50	2.81
1888	3.50	3.16	3.00	3.00	2.41	2.00	2.25	2.38	2.50	3.00	3.25	3.50	2.83
1889	3.25	3.00	3.00	2.57	2.00	2.00	2.00	2.00	2.33	2.50	3.00	3.38	2.59
1890	3.25	3.17	3.00	2.63	2.00	2.00	2.00	2.39	2.50	2.50	2.83	3.25	2.63
1891	3.00	3.00	2.75	2.50	2.32	2.00	2.00	2.26	2.50	3.00	3.16	3.50	2.67
1892	3.25	3.00	3.00	2.50	2.25	2.00	2.00	2.25	2.50	3.00	3.13	3.25	2.68
1893	3.25	3.25	3.13	2.75	2.43	2.00	2.18	2.50	3.00	3.00	3.00	3.00	2.79
1894	3.00	2.75	2.75	2.50	2.00	1.83	2.00	2.43	3.00	3.13	3.13	3.00	2.63
1895	2.87	2.68	2.37	2.25	2.12	2.00	2.00	2.50	2.63	3.00	3.00	3.00	2.53
1896	3.00	2.75	2.50	2.13	2.00	1.87	2.00	2.13	2.08	2.12	2.75	2.75	2.34

*Prices furnished to Dr. E. G. Misner by *The Milk Reporter*.

TABLE 22.—PRICES PAID TO PRODUCERS FOR GRADE B MILK TESTING 3.7 PER CENT BUTTERFAT, UTICA, NEW YORK
(Dollars per hundred pounds)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
97-18	1.64	1.57	1.43	1.29	1.06	.87	1.03	1.19	1.35	1.50	1.62	1.67	1.35
10-14	1.90	1.82	1.68	1.46	1.19	1.07	1.26	1.51	1.59	1.79	1.88	1.91	1.59
1897	1.28	1.28	1.13	1.03	.83	.63	.83	.93	1.13	1.13	1.23	1.23	1.06
1898	1.28	1.28	1.13	1.03	.83	.63	.83	.93	1.13	1.13	1.23	1.33	1.06
1899	1.33	1.23	1.13	1.03	.83	.63	.83	.93	1.13	1.23	1.33	1.33	1.08
1900	1.33	1.23	1.13	1.13	.93	.73	.88	1.03	1.23	1.33	1.43	1.48	1.16
1901	1.48	1.38	1.28	1.08	.93	.73	.88	1.03	1.23	1.33	1.43	1.48	1.19
1902	1.48	1.38	1.28	1.18	.98	.78	.88	1.03	1.23	1.43	1.53	1.58	1.23
1903	1.58	1.48	1.38	1.33	1.08	.93	.98	1.13	1.33	1.43	1.53	1.68	1.32
1904	1.68	1.58	1.43	1.33	1.03	.83	.98	1.08	1.33	1.38	1.48	1.58	1.31
1905	1.58	1.48	1.38	1.33	1.03	.88	.98	1.13	1.33	1.38	1.53	1.63	1.31
1906	1.63	1.53	1.38	1.33	1.08	.88	1.03	1.13	1.33	1.48	1.63	1.73	1.35
1907	1.73	1.58	1.43	1.43	1.23	1.03	1.18	1.28	1.43	1.73	1.93	1.93	1.49
1908	1.93	1.93	1.73	1.53	1.23	1.03	1.18	1.28	1.43	1.63	1.83	1.83	1.55
1909	1.83	1.83	1.63	1.43	1.18	.98	1.13	1.28	1.38	1.83	1.93	1.98	1.53
1910	1.98	1.93	1.73	1.53	1.23	1.03	1.23	1.68	1.78	1.88	1.98	2.03	1.67
1911	2.03	1.98	1.78	1.43	1.18	1.03	1.23	1.38	1.48	1.78	1.93	1.93	1.60
1912	1.88	1.83	1.68	1.43	1.18	1.03	1.23	1.63	1.63	1.73	1.73	1.83	1.57
1913	1.78	1.68	1.63	1.43	1.18	1.03	1.28	1.38	1.48	1.73	1.83	1.83	1.52
1914	1.81	1.69	1.58	1.46	1.18	1.22	1.34	1.46	1.58	1.81	1.93	1.93	1.58
1915	1.87	1.78	1.69	1.46	1.22	1.22	1.34	1.46	1.58	1.69	1.93	1.93	1.60
1916	1.87	1.81	1.69	1.46	1.34	1.22	1.40	1.58	1.65	2.28	2.39	2.39	1.76
1917	2.34	2.28	2.24	2.22	2.18	2.07	2.27	2.73	2.73	3.31	3.55	3.31	2.60
1918	3.75	3.57	3.45	2.73	2.69	2.03	2.47	2.92	3.12	3.79	4.03	4.28	3.24
1919	4.23	3.77	3.53	3.06	3.32	3.15	3.27	3.39	3.47	3.37	3.59	3.94	3.51
1920	3.95	3.74	3.62	2.81	2.81	3.09	3.21	3.61	3.91	3.91	3.91	3.44	3.50
1921	3.44	2.84	2.35	2.35	1.96	1.67	1.95	2.40	2.49	2.72	2.67	2.64	2.46
1922	2.36	2.22	1.85	1.59	1.55	1.60	1.87	2.00	2.25	2.46	2.72	3.00	2.12
1923	2.46	2.56	2.38	2.33	2.07	2.17	2.24	2.34	2.45	2.57	2.58	2.40	2.38
1924	2.17	2.07	2.05	2.00	1.65	1.59	1.67	1.89	2.10	2.11	2.51	2.66	2.04
1925	2.67	2.55	2.51	2.39	2.14	2.05	2.10	2.35	2.47	2.56	2.66	2.68	2.43
1926	2.64	2.56	2.47	2.37	2.19	......	......	......	......	......	......	......	......

TABLE 23.—INDEX NUMBERS OF PRICES PAID TO PRODUCERS FOR GRADE B MILK TESTING 3.7 PER CENT BUTTERFAT, UTICA, NEW YORK

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
1897	67	70	67	71	70	59	66	62	71	63	65	64	67
1898	67	70	67	71	70	59	66	62	71	63	65	70	67
1899	70	68	67	71	70	59	66	62	71	69	71	70	68
1900	70	68	67	77	78	68	70	68	77	74	76	77	73
1901	78	76	76	74	78	68	70	68	77	74	76	77	75
1902	78	76	76	81	82	73	70	68	77	80	81	83	77
1903	83	81	82	91	91	87	78	75	84	80	81	88	83
1904	88	87	85	91	87	78	78	72	84	77	79	83	82
1905	83	81	82	91	87	82	78	75	84	77	81	85	82
1906	86	84	82	91	91	82	82	75	84	83	87	91	85
1907	91	87	85	98	103	96	94	85	90	97	103	101	94
1908	102	106	103	105	103	96	94	85	90	91	97	96	97
1909	96	101	97	98	99	92	90	85	87	102	103	104	96
1910	104	106	103	105	103	96	98	111	112	105	105	106	105
1911	107	109	106	98	99	96	98	91	93	99	103	101	101
1912	99	101	100	98	99	96	98	108	103	97	92	96	99
1913	94	92	97	98	99	96	102	91	93	97	97	96	96
1914	95	93	94	100	99	114	106	97	99	101	103	101	99
1915	98	98	101	100	103	114	106	97	99	94	103	101	101
1916	98	99	101	100	113	114	111	105	104	127	127	125	111
1917	123	125	133	152	183	193	180	181	172	185	189	173	164
1918	197	196	205	187	226	190	196	193	196	212	214	224	204
1919	223	207	210	210	279	294	260	225	218	188	191	206	221
1920	208	205	215	192	236	289	255	239	246	218	208	180	220
1921	181	156	140	161	165	156	155	159	157	152	142	138	155
1922	124	122	110	109	130	149	148	133	142	137	144	157	133
1923	129	141	142	159	174	202	177	155	154	144	137	126	150
1924	114	114	122	137	139	149	133	125	132	118	134	139	128
1925	140	140	149	163	180	192	167	156	155	143	141	140	153
1926	139	141	147	162	184	......	......	......	......	......	......	......	......

TABLE 24.—PRICES OF THE HIGHEST GRADE OF EGGS QUOTED ON THE NEW YORK CITY MARKET—1875-1907

(cents per dozen)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
1875	33.8	38.9	34.6	21.5	17.8	21.7	23.2	23.2	24.4	29.2	31.1	31.5	27.6
1876	27.0	20.4	18.1	18.4	17.1	17.4	20.0	19.4	24.9	27.4	32.5	33.9	23.0
1877	39.6	24.8	16.6	16.5	14.2	18.3	19.5	17.2	21.9	23.5	27.1	27.4	22.2
1878	20.9	17.9	13.8	12.1	14.1	15.9	14.1	16.7	20.2	23.5	27.4	28.1	18.7
1879	29.5	26.4	17.8	13.6	12.8	15.1	14.8	15.4	19.0	21.0	25.3	25.6	19.7
1880	21.2	17.2	13.3	13.6	12.5	15.1	16.9	17.2	20.8	25.1	29.8	34.9	19.8
1881	44.9	30.1	20.9	18.6	14.6	19.3	18.6	20.5	23.2	26.8	33.2	33.8	25.4
1882	27.4	30.1	19.1	19.2	20.8	23.6	24.1	24.4	27.5	30.8	32.1	33.3	26.0
1883	31.2	30.6	20.4	19.1	17.8	18.9	20.6	22.5	24.2	26.9	29.8	31.6	24.5
1884	33.1	31.8	22.9	17.1	15.4	17.9	19.0	18.6	20.0	23.4	26.6	28.6	22.9
1885	29.6	27.1	22.0	15.4	14.2	14.2	14.0	15.2	19.6	22.0	26.2	26.6	20.5
1886	23.8	23.9	14.2	13.1	12.4	12.6	14.8	15.6	18.6	21.8	24.9	27.3	18.6
1887	31.5	20.6	16.4	13.6	13.1	16.6	15.5	16.9	19.2	21.8	24.5	26.3	19.7
1888	24.1	24.8	18.0	16.4	14.9	16.6	18.4	18.4	20.1	22.1	25.1	24.2	20.3
1889	17.8	15.2	13.5	12.1	13.9	14.6	15.3	17.3	20.4	22.2	26.3	26.8	18.0
1890	17.7	15.2	15.0	12.8	14.3	14.6	17.1	20.0	21.8	23.2	26.8	28.8	18.9
1891	27.6	19.9	21.3	16.3	16.9	17.6	17.6	17.6	20.6	23.6	26.8	27.8	21.1
1892	25.9	23.1	15.1	14.3	16.1	15.9	16.9	19.7	22.1	23.9	27.1	30.0	20.8
1893	35.1	30.6	18.1	15.8	16.2	16.2	16.5	16.9	20.1	23.1	25.8	26.5	21.7
1894	......	......	14.3	11.8	12.1	12.8	14.1	16.6	18.9	20.3	23.9	24.8	17.0
1895	23.5	29.4	17.6	13.1	14.1	13.9	14.3	15.2	16.8	20.4	24.6	25.4	19.0
1896	21.1	13.9	11.8	12.3	11.4	12.4	13.4	14.0	17.1	19.8	24.8	23.6	16.3
1897	17.9	17.4	11.6	10.0	10.9	11.6	12.5	16.0	17.6	18.8	23.4	24.9	16.1
1898	21.7	16.0	11.2	10.8	11.4	12.0	14.0	15.1	16.9	19.6	23.8	26.6	16.6
1899	21.5	25.6	17.1	13.4	14.7	15.0	15.5	16.8	19.2	20.8	22.9	24.1	18.9
1900	21.6	16.0	15.7	12.8	13.5	13.9	16.1	17.5	19.2	21.0	25.6	27.5	18.4
1901	24.1	19.5	14.8	14.1	14.0	13.9	15.8	18.4	20.1	22.7	27.5	31.3	19.7
1902	31.5	31.1	20.6	16.7	17.4	18.4	20.1	20.5	22.6	24.2	27.0	28.4	23.2
1903	27.6	18.5	17.7	15.4	16.9	18.4	18.5	21.0	24.2	26.2	31.4	33.5	22.4
1904	34.0	32.2	19.9	18.8	18.9	19.0	20.9	22.8	23.6	24.6	30.5	32.4	24.8
1905	30.8	33.2	23.1	18.6	18.9	18.8	20.9	23.8	24.0	25.2	30.5	30.8	24.9
1906	24.0	18.8	17.3	19.6	19.6	20.0	21.0	22.8	25.4	28.0	33.3	33.8	23.6
1907	29.8	29.0	21.6	19.0	19.5	18.4	20.2	22.8	25.1	27.8	32.3	32.4	24.8

PRICES OF EGGS

Prices before March 1st, 1922 are for the highest grade of eggs sold in the New York market. Since that date, prices are for grades which are comparable with those quoted as "nearby and nearby western hennery whites average extras." Since March 1st, 1922, various grades of New Jersey eggs have been quoted. These quotations are not comparable with any previous quotations.

The monthly average price is the average of the high and low price for the grade for each Saturday of the month. The quotations were taken from the *Producers' Price Current*. Tabulations for the earlier years were made by C. K. Powell, D. Walker and A. E. Anderson.

TABLE 25.—PRICES OF NEARBY HENNERY WHITE EGGS, NEW YORK CITY, 1908-1926
Present Classification "Nearby and Nearby Western Hennery Whites, Average Extras"
(Cents per dozen)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
10-14	39.7	34.1	25.9	22.5	22.8	24.5	27.2	30.8	36.7	45.1	54.8	49.3	34.4
1908	27.5	25.6	18.6	17.2	19.2	21.1	24.9	27.1	31.1	39.1	48.5	47.0	28.9
1909	38.3	34.3	24.4	23.4	25.2	25.8	30.0	31.2	34.8	40.5	50.8	47.3	33.8
1910	45.1	36.5	26.2	24.2	24.8	25.4	28.3	29.9	34.5	41.7	51.5	52.1	35.0
1911	37.1	27.0	23.0	19.7	19.8	22.2	24.9	28.1	34.0	44.0	52.8	49.6	31.8
1912	40.5	41.9	25.6	23.2	23.1	25.1	27.4	31.3	37.6	47.0	54.5	44.9	35.2
1913	33.9	29.2	25.0	21.9	23.1	24.9	28.4	31.3	39.6	44.3	59.0	45.9	33.9
1914	41.9	35.9	29.5	23.6	23.1	25.0	27.2	33.4	37.9	48.6	56.1	53.8	36.3
1915	43.6	32.9	24.1	23.6	23.4	24.4	27.5	33.5	37.1	51.1	60.6	50.1	36.0
1916	40.3	33.0	27.2	25.1	25.4	27.1	31.4	38.6	45.9	57.4	65.6	59.9	39.7
1917	52.9	48.4	35.2	36.6	37.7	38.4	42.6	52.0	56.1	65.5	76.1	70.2	51.0
1918	72.3	63.0	43.9	39.9	40.8	46.7	52.2	62.1	66.6	81.8	93.7	89.6	62.7
1919	74.5	56.5	48.5	51.8	52.8	57.9	62.2	68.5	75.9	88.1	98.1	91.5	68.9
1920	82.5	70.6	56.6	54.3	53.0	55.4	64.9	71.0	80.6	98.2	104.1	95.0	73.9
1921	73.6	54.5	42.5	37.1	33.8	37.9	49.4	57.8	66.1	78.6	89.5	71.8	57.7
1922	51.4	47.3	34.4	34.8	34.5	37.9	39.7	44.9	59.7	77.6	81.9	67.2	50.9
1923	53.4	45.0	39.6	35.1	35.0	35.0	39.8	46.4	54.7	69.9	77.3	61.4	49.4
1924	49.9	46.4	32.1	33.0	31.2	35.0	39.6	49.3	60.4	71.6	76.2	68.9	49.5
1925	63.8	45.0	37.6	35.6	36.9	40.4	44.1	49.2	60.4	76.5	77.8	57.6	52.1
1926	46.2	40.5	36.8	35.3	35.8	36.9	......	......	......	......	......	......	......

TABLE 26.—INDEX NUMBERS OF PRICES OF NEARBY HENNERY WHITE EGGS, NEW YORK CITY, 1908-1926

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
1908	69	75	72	76	84	86	92	88	85	87	89	95	84
1909	96	101	94	104	111	105	110	101	95	90	93	96	98
1910	114	107	101	108	109	104	104	97	94	92	94	106	102
1911	93	79	89	88	87	91	92	91	93	98	96	101	92
1912	102	123	99	103	101	102	101	102	102	104	99	91	102
1913	85	86	97	97	101	102	104	102	108	98	108	93	99
1914	106	105	114	105	101	102	100	108	103	108	102	109	106
1915	110	96	93	105	103	100	101	109	101	113	111	102	105
1916	102	97	105	112	111	111	115	125	125	127	120	122	115
1917	133	142	136	163	165	157	157	169	153	145	139	142	148
1918	182	185	169	177	179	191	192	202	181	181	171	182	182
1919	188	166	187	230	232	236	229	222	207	195	179	186	200
1920	208	207	219	241	232	226	239	231	220	218	190	193	215
1921	185	160	164	165	148	155	182	186	180	174	163	146	168
1922	129	139	133	155	151	155	146	146	163	172	149	136	148
1923	135	132	153	156	154	143	146	151	149	155	141	125	144
1924	126	136	124	147	137	143	146	160	165	159	139	140	144
1925	161	132	145	158	162	165	162	160	165	170	142	117	151
1926	116	119	142	157	157	151	......	......	......	......	......	......	......

G. F. WARREN and F. A. PEARSON

RELATION OF CORN-BELT RAINFALL TO THE PRODUCTION AND PRICE OF CORN

Yearly variations in the production and price of corn are due very largely to varying amounts of rainfall in the corn belt.

The combined June, July and August rainfall for the state of Iowa and for the following stations: Omaha, Neb.; Topeka, Kansas; Kansas City, Mo.; St. Louis, Mo.; Peoria, Ill.; Indianapolis, Ind.; Toledo, Ohio; and Cincinnati, Ohio, for the 36 years from 1890 to 1925 inclusive, averaged 10.8 inches per station. This was considered the normal corn-belt rainfall. The rainfall for each year was then computed in per cent of this normal and was found to range from 63 per cent of normal in 1894 to 153 per cent of normal in 1915.

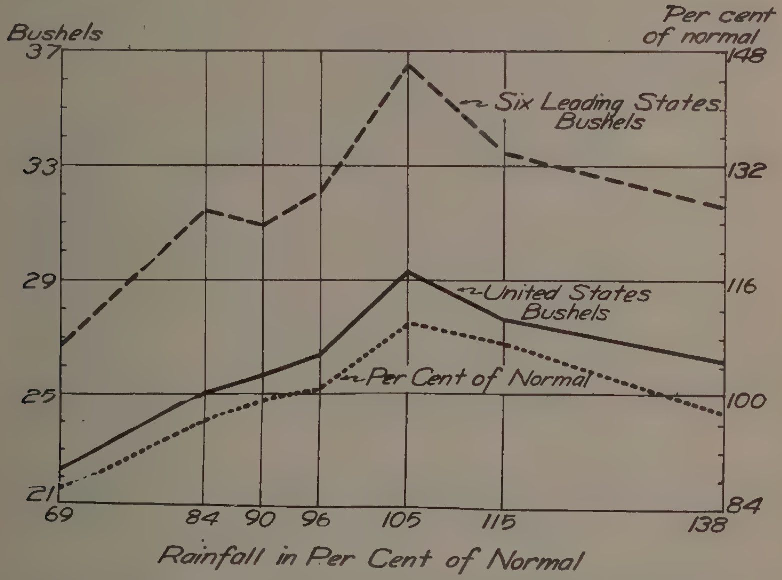

FIGURE 1.—RELATION OF CORN-BELT RAINFALL TO AVERAGE YIELD PER ACRE OF CORN IN THE SIX LEADING STATES AND IN THE UNITED STATES

The yield of corn increases as the rainfall increases until rainfall is about 10 per cent above normal. With additional rainfall the yield declines

Rainfall and the Yield Per Acre of Corn in the United States

The relation of the corn-belt rainfall to corn yield per acre in the United States is shown in Figure 1. For that figure the 36 years studied were rearranged in order from the least rainfall, to the greatest and five-year averages were made.

For the United States the yield per acre averaged 7.0 bushels more in years of most favorable rainfall than in the dry years, and 3.1 bushels more in the years of most favorable rainfall than in the five wettest years.

For the six corn-belt States the difference between the yield per acre in the years of most favorable rainfall and the driest years was 9.8 bushels per acre, and the difference between the yield in the years of most favorable rainfall and the five wettest years was 4.9

bushels per acre. Therefore, there is a closer relation between corn-belt yield per acre and rainfall than between the United States yield per acre and corn-belt rainfall. Variation in the yield per acre has more effect on the total production of corn than does variation in acreage.

Corn-Belt Rainfall, United States Corn Crop and Purchasing Power of the Price of Corn

In Table 1 the 36 years from 1890 to 1925 inclusive have been arranged in order of rainfall, in 7 groups of 5 years each, excepting the next to the last group which contains 6 years.

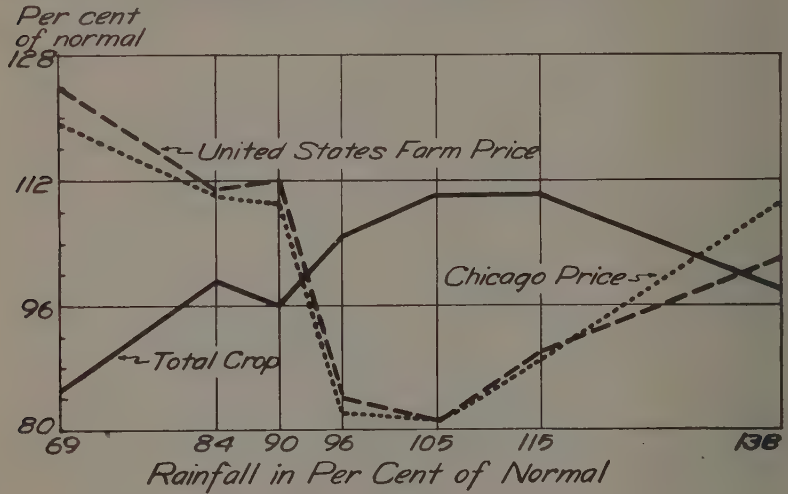

FIGURE 2.—RELATION OF CORN-BELT RAINFALL TO THE TOTAL UNITED STATES CORN CROP AND THE PURCHASING POWER OF DECEMBER PRICE

The purchasing power of the price of corn moves inversely with the total producton of corn which bears a close relationship to the rainfall

The total United States corn crop increases with the rainfall until the rainfall reaches from 5 to 15 per cent above normal. When the rainfall is heavier than this the total corn crop is less.

Since the yield per acre and the total crop show a decided relation to rainfall, the purchasing power of corn prices in per cent of normal are also closely related to rainfall. This is shown in Figure 2.

The purchasing power of December corn prices declines from 20 per cent above normal in very dry years to 20 per cent below normal in the years with slightly above normal rainfall and then returns to slightly above normal in the very wet years. The reason for the increased purchasing power in wet years is due to decreased yield per acre and decreased total crop in those years as previously indicated.

Since too much rain has a depressing effect upon corn production, therefore a stimulating effect on purchasing power of corn prices, the closest correlation between rainfall and price is obtained by omitting all years when the rainfall in the corn-belt was more than 10 per cent above normal. In the period studied there were 11 such years. For the remaining 25 years the coefficient of correlation between the corn-belt rainfall and the purchasing power of the December cash price of Number 2 corn at Chicago was —0.62, while the correlation between the December estimate of the United States crop and cash corn at Chicago was —0.64. In other words, in years with less than 110 per cent of normal rain in the corn-belt, the rainfall is as closely related to the Chicago price as is the government's estimate of production.

TABLE 1.—RELATION OF CORN-BELT RAINFALL TO SIZE OF CROP, YIELD PER ACRE, AND PURCHASING POWER OF CORN—36 YEARS, 1890-1925 INCLUSIVE

	Rain per cent of normal	United States crop per cent of normal	United States yield per acre		Yield per acre in six leading states, bushels	Purchasing power	
			Bushels	Per cent of normal		United States Dec. 1 farm price, per cent of normal	No. 2 cash corn at Chicago December per cent of normal
5 driest years	69	85	22.3	86	26.7	124	119
5 next driest years	84	99	25.1	96	31.4	111	110
5 next driest years	90	96	25.7	99	30.9	112	109
5 years with slightly below normal rain	96	105	26.4	101	32.2	84	82
5 years with slightly above normal rain	105	110	29.3	110	36.5	81	81
6 wet years	115	110	27.6	107	33.4	90	89
5 wettest years	138	98	26.2	98	31.6	102	109

The very close relation between rainfall and corn production and prices makes it possible to forecast the United States corn crop in the first week in September, within 7 per cent of the final estimate of production. An approximation of price can also be made directly from the rainfall data.

TABLE 2.—RELATION OF JUNE, JULY AND AUGUST CORN-BELT RAINFALL TO PRODUCTION, RATES OF PRODUCTION AND PURCHASING POWER PRICE OF CORN

Rainfall		Production		Purchasing power		
Range in percent of normal	Average percent of normal	United States average per acre percent of normal	Total United States percent of normal	Dec. 1 United States Farm Price percent of normal	December cash price Chicago percent of normal	Number of years in group
Less than 90	79	92	92	119	115	13
90-110	99	105	106	85	85	12
More than 110	126	103	105	95	98	11

E. G. MISNER

RELATION OF RAINFALL IN NEW YORK TO THE PRODUCTION AND PRICE OF HAY

The amount of rain that falls in April, May, and June largely determines the yield per acre of hay in New York and the price of hay on farms and in the city. The closeness of the relation of purchasing power to rainfall is shown in Figure 1. A variation of 1 per cent in the rainfall has resulted in a variation of 0.7 per cent in the yield per acre in New York.

In the ten years when the rainfall was less than 90 per cent of normal with an average of 75 per cent of normal, the yield of hay per acre in New York averaged 85 per cent of normal. The North Atlantic production averaged 86 per cent and the United States production averaged 92 per cent of normal. The purchasing power and wholesale price of No. 1 timothy hay, large bales, in New York City averaged 111 per cent of normal and the purchasing power of the farm price of hay in New York State averaged 120 per cent of normal[1].

TABLE 1.—RELATION OF APRIL, MAY AND JUNE NEW YORK RAINFALL TO PRODUCTION, YIELD PER ACRE AND PURCHASING POWER PRICE OF HAY

Rainfall in per cent of normal		Total production of hay		Yield per acre in New York per cent of normal	Price of No. 1 timothy hay New York City per cent of normal	Dec. 1 farm price of hay in New York per cent of normal	Number of years in group
Range	Average	United States per cent of normal	North Atlantic States per cent of normal				
Less than 90	75	92	86	85	111	120	10
90—110	101	102	103	104	99	93	16
More than 110	123	104	109	110	94	91	10

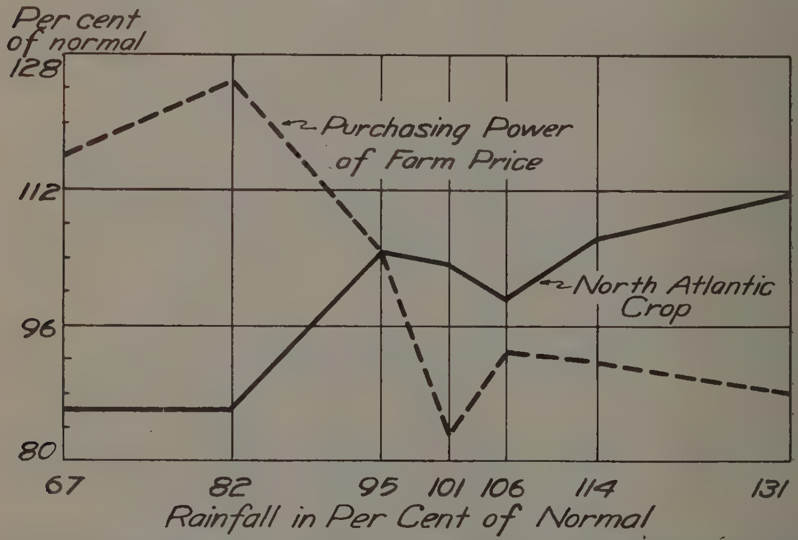

FIGURE 1.—RELATION OF THE NEW YORK STATE RAINFALL TO THE NORTH ATLANTIC HAY CROP AND PURCHASING POWER OF THE NEW YORK DECEMBER 1 FARM PRICE OF HAY

The hay crop increases with the rainfall and the purchasing power of the price of hay decreases with increased production

In the ten years when the rainfall was more than 110 per cent of normal with an average of 123, the yield per acre in New York averaged 110 per cent of normal, the North Atlantic crop averaged 109 and the United States crop, 104. The purchasing power of the price in New York City was 94 and the purchasing power of the New York farm price was 91 per cent of normal.

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[1] Thanks are due G. P. Scoville for loaning the use of the per cents of normal for the North Atlantic crop, the United States crop and the purchasing power of the city price. Curves of the normal United States crop and the purchasing power of hay in New York appear in Farm Economics No. 33.

Per cent of normal yield is per cent of the trend yield. Normal is not used here in the same sense as used by the Division of Livestock and Crop Estimates of the United States Department of Agriculture.

Table 1 gives the data for hay when the 36 years are divided into three groups according to rainfall.

For the four years 1918-1921 inclusive, the rainfall averaged 97 per cent of normal, the North Atlantic crop averaged 95 per cent of normal, and the December 1 farm price in New York State averaged $21 per ton, or 103 per cent of normal.

The December 1 farm price of hay in New York state for the past four years has averaged $15 per ton, the same as the ten-year average prior to 1918-1921, inclusive. The demand for hay was greater during those years than could be expected without the war activities, and the price of hay could not be expected to remain at that level. While the average price of hay for the past four years is not lower than for ten years before the period of very high prices, the purchasing power of hay is low because of the high general price level.

The New York State rainfall in April, 1926, was 104 per cent of normal and in May 47 per cent of normal. The carry-over of hay is low and the prospects so far for a good yield this year are not promising. This may make the purchasing power of hay relatively high next winter. E. G. MISNER

RETAIL FEED STORES IN NEW YORK STATE

A study was made of seventy retail feed stores, including both privately owned and cooperative stores, in New York State for 1924. It was possible to make up balance sheets at the beginning and end of the year for 54 stores, and complete operating statements of the year's business for 47 of the 70 stores.

Financial Organization

The average investment of the 54 stores was $35,275.44, of which 76 per cent was in current assets and 24 per cent in fixed assets. Cash made up 8 per cent; accounts and notes receivable, 38 per cent; merchandise inventory, 29 per cent; and other current assets, 1 per cent of the total. The fixed assets were furniture and fixtures, 1 per cent; delivery equipment, 1 per cent; warehouse equipment, 5 per cent; and land and buildings, 17 per cent.

The ten cooperative stores organized as membership corporations, borrowed 83 per cent of their capital on short term notes, which were secured by the demand notes of members as collateral or were endorsed by members or directors or by the manager. Certificates of indebtedness made up 6 per cent and mortgages 5 per cent of their average total liabilities and net worth.

The method used by the cooperative stock corporations and the privately operated stores stands out in sharp contrast to the method used by the membership corporations. The three cooperative stores organized under the cooperative stock corporations law obtained 75 per cent of their capital from members, mostly in the form of stock. The ten stores operated by partnerships had 93 per cent of their capital furnished by the owners. The individual proprietors, who operated 23 stores, furnished 77 per cent of the capital used by them. The stockholders furnished 71 per cent of the capital used by the eight private business corporations.*

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*Includes one cooperative store organized under the ordinary business corporations law.

Thirteen of the cooperatives and 30 of the private dealers owned the buildings used in the business. The average total investment of the cooperative stores owning buildings was $31,993.76, while that for the privately operated stores owning buildings was $41,830.60 (Table I).

TABLE 1.—INVESTMENT AND SOURCES OF CAPITAL—STORES OWNING BUILDINGS

	13 Cooperatives				30 Private Dealers			
	Stores having item		All stores		Stores having item		All stores	
	Number stores	Average amount	Average amount	Per cent	Number stores	Average amount	Average amount	Per cent
ASSETS								
Cash	13	$2,185.56	$2,185.56	6.8	30	$1,890.22	$1,890.22	4.5
Accounts and Notes Receivable	13	11,055.79	11,055.79	34.6	30	16,414.70	16,414.70	39.3
Inventory	13	9,249.76	9,249.76	28.9	30	10,694.19	10,694.19	25.6
Other current assets	7	749.72	403.70	1.3	8	1,140.72	304.19	.7
Total current assets			22,894.81	71.6			29,303.30	70.1
Land and buildings	13	6,257.82	6,257.82	19.6	30	8,745.27	8,745.27	20.9
Equipment	11	2,342.70	1,982.28	6.2	27	3,155.04	2,839.54	6.8
Furniture and fixtures	11	465.82	394.16	1.2	27	548.87	493.98	1.2
Delivery equipment	4	835.25	257.00	.8	20	672.77	448.51	1.0
Other fixed assets	1	2,700.00	207.69	.6				
Total fixed assets	13	9,098.95	9,098.95	28.4	30	12,527.30	12,527.30	29.9
Total assets			$31,993.76	100.0			$41,830.60	100.0
LIABILITIES AND NET WORTH								
Notes payable	11	$24,750.00	$20,942.38	65.4	23	$9,158.37	$7,021.42	16.8
Accounts payable	8	1,454.95	895.36	2.8	10	1,360.51	453.50	1.1
Other current liabilities	6	1,161.70	536.17	1.7	2	328.55	35.24	.1
Total current liabilities			$22,373.91	69.9			$7,510.16	18.0
Mortgage	5	$3,110.00	$1,196.16	3.8	9	$5,022.22	$1,506.67	3.6
Certificates of indebtedness	9	$2,177.14	$1,507.25	4.7				
Other fixed liabilities	1	2,231.87	171.68	.5				
Total fixed liabilities			$2,875.09	9.0			$1,506.67	3.6
Common stock	4	$16,113.86	$4,958.11	15.5	5	$31,200.00	$5,200.00	12.4
Preferred stock	1	7,150.00	550.00	1.7	1	2,800.00	93.33	.2
Surplus	13	1,236.65	1,236.65	3.9	5	8,401.65	1,400.27	3.4
Owner's equity					25	31,344.20	26,120.17	62.4
Net worth	13	6,744.76	6,744.76	21.1	30	32,813.77	32,813.77	78.4
Total liabilities and net worth			$31,993.76	100.0			$41,830.60	100.0

Current ratio 1 to 1

Current ratio 3.1 to 1

The larger investment of the private dealers may be due to the fact that they have been in business longer, and consequently have accumulated more fixed assets and larger inventories and accounts receivable. The average net sales were approximately $2,000 less in the case of the privately operated stores than in the case of the cooperative stores. The net worth or owned capital of the 13 cooperatives owning their buildings was only 21 per cent of total capital, or less than the amount invested in fixed assets. The owners of the privately operated stores owning their buildings contributed 78 per cent of the capital used. The cooperative stores borrowed 65 per cent of their capital on notes, while the privately operated stores obtained only 17 per cent in this manner.

The average investment for the 11 stores renting buildings including only one cooperative, was $21,276.08, or slightly more than half the average investment of the stores owning their buildings. If the land and buildings are excluded, the stores owning their buildings still have a larger investment by about $10,000. The distribution of the assets, other than real estate, was about the same, except that the stores owning buildings had a larger investment in equipment. The average yearly sales of the stores renting their buildings was smaller than that of the stores owning their buildings. The owners of the eleven stores renting buildings, furnished 81 per cent of the capital and only 12 per cent was borrowed on notes.

Some of the necessary capital for financing a feed store may be obtained more easily by borrowing on notes, mortgages or certificates of indebtedness than by investment of the owners. However, the interest on borrowed capital constitutes a fixed charge against the income from the business, and the required payments of interest and repayments on the principal may, at times, exceed the capacity of the corporation to pay. A store financed largely by the permanent investments of the owners or members is in a much more secure position.

The average total capital turnover for 51 stores was computed by dividing the net sales for the year by the average of the total capital at the beginning and end of the year. This figure was 3.2 times per year.

Net Income figures were available for 47 stores. The average net return on the total capital of these stores was 8.7 per cent.[1]

The average net return on owned capital after paying all expenses, including interest on borrowed money, was 13.9 per cent.

Summary of the Year's Business

The average net sales of the 47 stores for which it was possible to make up operating statements were $88,275.64. The cost of goods sold amounted to $77,993.27 or 88.4 per cent of net sales, leaving a gross margin of $10,282.37 or 11.6 per cent of net sales. Salaries and wages were nearly half of the expense. They were 5.0 per cent of net sales. The average total expense was $9,377.70 or 10.6 per cent of net sales. This left a net operating income of $904.67 or 1 per cent which was increased to a net income of 1.1 per cent by other miscellaneous income.

A summary of the year's business of 14 cooperative stores and 33 privately operated stores is shown in Table 2.

The average net sales of the cooperative stores were $89,798.06 and those of the private dealers were $87,629.77. The higher gross margin obtained by the privately operated stores is probably due to buying at somewhat lower prices and to obtaining higher average retail prices. Some of the cooperative stores did not follow the current wholesale quotations when they were rising but were forced by competition to lower their retail prices when wholesale prices declined, thus narrowing their margin.

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[1] The net return on capital was computed by deducting from the gross margin all expenses except interest. The salaries of proprietors who did not receive regular salaries, were included in the expenses at the estimated cost of hiring a person to do the same work.

The salaries and wages item of the cooperatives was 4.0 per cent of net sales, while for the private stores it was 5.4 per cent. Total expenses for the former were 9.3 per cent, while for the latter they were 11.2 per cent. The operating income was practically the same for both groups.

TABLE 2.—SUMMARY OF THE BUSINESS OF 14 COOPERATIVE AND 33 PRIVATELY OPERATED FEED STORES IN NEW YORK STATE, 1924

	14 Cooperatives		33 Private Dealers	
	Average Amount	Per cent	Average Amount	Per cent
Net sales	$89,798.06	100	$87,629.77	100
Cost of goods sold	80,555.35	89.71	76,906.33	87.76
Gross margin	9,242.71	10.29	10,723.44	12.24
Salaries and wages	3,544.02	3.95	4,735.79	5.41
Land, building and equipment expenses	955.51	1.06	997.62	1.14
Bad debts	915.18	1.02	678.23	.77
Interest	2,014.23	2.24	2,060.89	2.35
Other expenses	890.56	.99	1,354.09	1.54
Total expenses	8,319.50	9.26	9,826.62	11.21
Net operating income	923.21	1.03	896.82	1.03
Other income	80.06	.09	1.39	....
Net income	1,003.27	1.12	898.21	1.03

Great variations were found among the individual stores in respect to purchase prices, retail prices, expenses and profits. Because of differences in the kinds and quality of feed bought and sold by the individual stores, it was impossible to make accurate comparisons of prices, but efficiency in buying is probably one of the most important factors favoring success in the retail feed business. Wholesale prices of feed fluctuate considerably and tend to be lower at certain times of the year than at others. Taking advantage of periods of low prices by buying in large quantities for later sale has been common practice among the successful stores. Ability to do this depends upon the buyer's knowledge of the factors affecting the prices of feeds and upon having an adequate supply of working capital. Mistakes in buying often lead to serious losses.

Variations in the expense per unit of business are due mainly to differences in the volume of business and in the overhead costs. In general the stores doing a relatively large volume of business had larger gross margins, lower expenses, and larger profits per dollar of sales than the smaller stores.

E. A. PERREGAUX

SOME CHANGES IN THE NUMBER OF MILK PLANTS AND VOLUME OF MILK DELIVERED TO DIFFERENT KINDS OF PLANTS IN FIVE COUNTIES OF NEW YORK STATE

The number of milk shipping stations, condenseries, cheese factories and butter factories doing business in Chemung, Chenango, Jefferson, Madison and Oswego Counties, in 1908, 1918 and 1924, and the quantity of milk delivered by farmers to the plants of each type in 1908 and 1924 were compiled from records of the New York State Department of Farms and Markets.

These figures illustrate two important changes in the dairy industry of the state, namely, a shift from cheese factories to milk shipping stations and condenseries and an increase in the average quantity of milk handled by one plant.

Percentages of the total quantity of milk handled by the plants of each type in 1908 and in 1924 are shown in Table 1.

TABLE 1.—MILK HANDLED IN DIFFERENT TYPES OF PLANTS

	1908 per cent	1924 per cent
Milk stations	47.9	60.6
Condenseries	7.4	8.7
Cheese factories	33.9	20.9
Butter factories	10.8	9.8
Total	100.0	100.0

The percentage of the total milk handled by milk shipping stations increased from about 48 per cent to over 60 per cent, and the percentage handled by condenseries increased slightly. The proportion delivered to cheese factories decreased from about one-third to about one-fifth of the total, and the proportion going to butter factories decreased from about 11 per cent to about 10 per cent. The proportion of all milk that was condensed, evaporated or powdered in 1924 was considerably less than the proportion of milk delivered to condenseries, since all the condenseries were shipping a part of their supply in the form of milk or cream.

The shift from cheese factories to fluid milk plants was due to the increasing demand for market milk and to the improved conditions of transportation in these counties, which made it possible to haul milk to the railroad shipping points from more remote sections. Fluid milk plants probably will continue to take an increasing proportion of the milk, not only in these counties, but in the whole territory that is tributary to the New York market.

Ninety-seven milk shipping stations in 1924 handled 41 per cent more milk than was handled by 101 stations in 1908. The average volume per plant increased from 3.3 million pounds in 1908 to 4.9 million pounds in 1924 (Table 2).

TABLE 2.—CHANGES IN NUMBERS OF COUNTRY MILK PLANTS AND AVERAGE VOLUME OF MILK HANDLED PER PLANT IN CHEMUNG, CHENANGO, JEFFERSON, MADISON AND OSWEGO COUNTIES, NEW YORK

Kind of plant	Number of plants			Pounds per plant (000 omitted)	
	1908	1918	1924	1908	1924
Milk stations	101	116	97	3,323	4,889
Condenseries	4	9	4	12,972	17,001
Cheese factories	211	143	88	1,125	1,862
Butter factories	41	18	12	1,837	6,386
All plants	357	286	201	1,961	3,894

Similar increases occurred in the average quantities of milk handled by condenseries and cheese factories. The average volume of milk going to one butter factory increased from 1.8 million pounds in 1908 to 6.4 million pounds in 1924.

The greater average quantity of milk handled by individual plants is the result of improved roads and the use of motor trucks for hauling milk from the farms to the plants. Milk can be trucked economically on hard surfaced roads several times as far as it could be hauled by wagon on dirt roads. The adjustment to these changed conditions of transportation is still in progress.

Further reduction in the number of milk plants of all types is to be expected, with a corresponding gain in the average quantity handled by one plant. The number of manufacturing plants is likely to show a greater decline than the number of fluid milk plants, since, with the increasing demand for fluid milk, less surplus will be left for manufacturing.

LELAND SPENCER

THE AGRICULTURAL SITUATION IN GERMANY

Agricultural conditions in Germany have been influenced in the same way as agricultural conditions in the United States by the fluctuations in the value of the currency. After a period of inflation which lasted from 1915 to 1923, the German currency became stabilized in November, 1923. During the war and during the inflation-period, farmers were highly prosperous. The most important cost-items in agricultural production in Germany: labor, fertilizer, credit, and taxes were low compared with prices paid to farmers for their products. Inflation also enabled farmers to pay off their debts.

High profits and the inability to invest these profits in other enterprises induced farmers to increase and improve their buildings and equipment. Land prices rose, land being the only form of property considered safe against inflation and social troubles. Many farmers sold their farms at that time and new settlers started farming, who did not have capital enough to run farms under adverse conditions.

Deflation came in 1920 in the United States, but came in 1923 in Germany. The agricultural situation became unfavorable when the currency became stabilized. Prices did not change materially, but costs of production increased. No index numbers are available for wages, taxes, and the cost of credit.

The cost of labor has increased in several ways:

(1) Wages paid to laborers have increased and there has been a reduction in hours of work per day.

(2) The number of foreign seasonal laborers has been reduced considerably and replaced by German workers who are better paid and housed but do not work as efficiently as the foreign laborers.

(3) Insurance paid for workers by farmers amounted to $.50 per acre in 1913 and to $1.30 in 1924.

The effect of taxes on profits is shown in the following table:

TABLE 1.—PROFITS AND TAXES ON GERMAN FARMS IN 1924[1]

Income class	2	3	4	5
Net profit per acre pre-war	$13.40	$11.00	$6.70	$3.80
Net profit per acre 1924	$6.70	4.40	2.00	.40
Taxes that have to be deducted from profits	$4.90	4.00	2.60	1.60
Actual net profit	$1.80	.40	—.60	—1.24

[1] Publications of the "Deutscher Landwirtschaftsrat. Bulletin 4 1925.

The credit situation is illustrated by figures published recently by the Bureau of Agricultural Economics:

TABLE 2.—AGRICULTURAL CREDIT IN PRUSSIA[2]

	Value of Loans	Amount of Interest Paid
Pre-war	$2,743,800,000.00	$85,752,000.00
Present time	$1,405,000,000.00	$134,000,000.00

[2] Foreign Crops and Markets, vol. 12, March 11, 1926.

The figures indicate that the rate of interest that farmers have to pay for their loans is more than 3 times as high as the prewar rate.

Index numbers of other items entering the cost of production have been published only until March, 1925[1]. They are given in Table 3 together with index numbers of prices paid to farmers for their products.

TABLE 3.—INDEX NUMBERS OF PRICES PAID BY FARMERS IN GERMANY

Date	Feed	Fertilizer	Machinery	Building Material
1913	100	100	100	100
1920/21	111	93	94	70
1921/22	141	57	63	79
1922/23	100	59	73	78
1923/24	102	90	142	126
January, 1924	102	99	139	134
February	100	97	129	127
March	108	96	126	124
April	113	96	136	127
May	106	96	140	132
June	91	94	139	133
July	101	92	134	125
August	119	91	132	127
September	140	92	130	147
October	154	93	128	149
November	139	93	129	160
December	147	92	129	164
January, 1925	165	83	132	168
February	163	94	134	172
March	148	94	134	177

[1] Annual Report of the "Deutscher Landwirtschaftsrat," Berlin, 1925. Other index numbers available are: index numbers of the Frankfurter Zeitung. Since these are wholesale price index numbers and since the margin between prices paid to farmers and wholesale prices has increased considerably since 1913, they do not give a true picture of the price situation.

Still less useful for comparison is the index of Agricultural Products published by the "Statistisches Reichsamt" (the Statistical Bureau of the German Government) because this index includes prices of imported agricultural products.

Since March, 1925, the general trend of prices paid to farmers has been downward except for a few months, when prices of animal products rose in anticipation of and in consequence of a tariff on agricultural products which came into effect in August, 1925. Whereas wholesale prices of agricultural products on the average have not been more than 15 per cent lower than industrial products in 1925, prices paid to farmers for agricultural products seem to lie about 20 per cent under prices of industrial products. The purchasing power of the German farmers' products in terms of non-agricultural products in Germany is lower than the purchasing power of the American farmers' products.

TABLE 4.—INDEX NUMBERS OF PRICES PAID TO FARMERS IN GERMANY

Year	Rye	Potatoes	Beef cattle Hogs, Sheep	Milk	Hay and Straw
1913	100	100	100	100	100
1920/21	60	113	96	75	......
1921/22	84	80	66	56	......
1922/23	88	23	51	41	......
1923/24	83	70	88	88	......
January, 1924	86	75	94	125	37
February	82	75	94	125	35
March	83	75	96	125	45
April	83	93	97	106	54
May	80	122	82	119	68
June	77	81	80	100	47
July	83	----	82	119	36
August	92	66	95	131	43
September	122	62	104	131	68
October	138	76	106	150	77
November	127	77	100	138	70
December	133	78	101	150	72
January, 1925	152	85	99	124	75
February	154	87	96	127	78
March	146	84	97	132	77

The effect of the present agricultural depression in Germany on agricultural production will be felt for the first time in 1926. Availability of credit and stimulation of production increased the intensity of farming after the stabilization of the currency. To what extent this coming decrease in production will influence Germany's demand for foreign agricultural products and their prices depends largely on the industrial situation in Germany which seems to have improved during the last months.

How farmers have adjusted the organization of their business to the present conditions is shown by the decrease in the number of farm animals during 1925[1].

TABLE 5.—NUMBER OF FARM ANIMALS IN GERMANY ON DECEMBER 1

	1922	1924	1925	Per cent change 1925/1924
Horses	3,650,475	3,855,200	3,914,800	.2
Cattle	16,315,541	17,326,100	17,182,700	—.8
Hogs	14,678,285	16,894,900	16,159,800	—4.4
Sheep	5,566,249	5,735,100	4,741,900	—17.3
Poultry	63,199,992	71,705,600	71,213,400	—.7

[1] Wirtschaft und Statistik, vol. 6, p. 66.

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FARM ECONOMICS

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BUSINESS CONDITIONS:—PRE-WAR = 100

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	113	111	....
1914	103	101	100	96	98	81	....
1915	100	101	103	119	74	101	101
1916	116	119	130	152	70	130	114
1917	170	180	181	140	92	124	129
1918	186	206	198	130	110	121	160
1919	206	215	210	160	102	94	185
1920	217	214	231	144	137	109	222
1921	144	119	150	118	125	48	203
1922	134	124	152	146	86	77	197
1923	142	137	157	155	95	112	214
1924	128	140	153	166	77	85	218
1925	147	154	162	221	77	97	223
Jan., 1925	136	154	163	201	77	110	223
February	136	153	164	203	80	111	220
March	136	157	164	200	82	109	224
April	141	152	159	201	83	102	218
May	150	151	158	209	82	91	221
June	157	153	161	214	81	87	220
July	150	156	163	222	75	88	220
August	156	160	164	228	70	88	222
September	148	152	163	236	69	89	223
October	147	151	161	243	72	92	225
November	165	153	161	248	75	97	226
December	159	152	159	250	80	103	229
Jan., 1926	156	150	159	252	89	106	229
February	154	150	158	255	91	98	225
March	156	146	155	239	89	103	229
April	169	146	154	232	89	106	227
May	173	146	155	233	86	105	226
June	173	146	156	242	84	104	228
July	....	144	153	249	77	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923 Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

There has been some decline in wholesale prices. Apparently some curtailment of urban production has taken place. There is a little unemployment. Inventories have increased somewhat. Those who attempt to forecast the trend of urban business feel that there will be some recession in the volume of industrial production during the last half of this year, but there is no evidence that the reaction will be severe.

CROP CONDITIONS

Apparently the world supply of wheat, rye and oats will be less this year than in 1925.

With the exception of fruits, nuts, and the like, the July condition of food crops in the United States was uniformly far below normal. The July condition for the 8 major food crops ranged from 77 per cent of the ten-year average for spring wheat, to 100 per cent for winter wheat.

The condition of crops in the United States has not changed materially since June. In the Rocky Mountain States and in the northern half of the Mississippi Valley, July crop conditions in general were below the very unfavorable June reports.

In the North Atlantic States and in the southern half of the Mississippi Valley, conditions for crop production were more favorable and the July condition reports were better than those for June.

New York State, like the United States, has a good crop of fruit, but the field crops are far below normal, and there has been little change since June. The rainfall in May and June in New York was 75 per cent of normal, and that of July was below normal. Deficient moisture and low temperature are the major factors retarding plant growth.

TABLE 1.—PERCENTAGE OF NORMAL RAINFALL, NEW YORK

1926	Rainfall	Temperature
April, May, June	83	93
May and June	75	95
July	below	normal

The late spring which retarded farm work, and the unfavorable climatic conditions that followed, indicate that the 1926 crop production will be low.

FARM PRICES

Farm prices in the United States continue to decline. For July they were 144, when prewar is considered as 100, and have not been as low since June, 1924. During the month, the index number of the prices of 13 commodities fell, 8 rose and 2 were stationary. The poor crops of grain and hay are beginning to affect prices, but the small number of hogs, horses and young cattle prevents the shortage from having as great an effect as might be expected from the amount of crop damage.

The index for the average of all farm prices in New York in June was 173, which is higher that at any time since 1920.

The index of farm prices in Iowa for July was 132. Prices in this state have declined for a year and a half.

The index numbers of prices in Georgia, Alabama and Texas are lower than at any time in the past four years. For the year 1925, prices in Texas averaged 156. In July of this year, they were 126. The decline in the price of cotton is primarily responsible for the decline in the index number. Prices paid to farmers for food products have declined slightly. For several years prices in the South averaged higher than prices in the North. Recently prices in the South have fallen so much that they are lower than prices in the North.

FEED PRICES

The index of the cost of a dairy ration rose from 127 for June to 133 for July, and fell to 127 for August 3rd.

The index of the cost of a poultry ration rose from 128 for June to 129 for July, and to 131 for August 3rd.

The primary increases in feed prices were in corn and corn products, each of which rose about 10 points.

Feed prices are still low when compared with other farm products.

G. F. WARREN and F. A. PEARSON

RATIO OF DAIRY COWS TO DAIRY HEIFERS

According to estimates of the United States Department of Agriculture, there was on January 1st, 1926, in the United States, one heifer (one to two years old), for each six dairy cows kept for milk. The United States always has a higher percentage of heifers than does New York. In many parts of the country where feed is cheap, dual purpose cattle are kept and many of the heifers are raised.

NUMBER OF DAIRY COWS PER HEIFER (1 to 2 years old)*

Year	United States	North Central States	North Atlantic States	New York State
1920	4.85	4.77	5.51	5.92
1921	5.15	4.94	6.27	7.31
1922	5.42	5.13	6.92	7.57
1923	5.32	5.20	6.64	7.03
1924	5.38	5.43	7.01	7.44
1925	5.32	5.22	6.94	7.42
1926	5.77	5.70	8.15	9.10

*Based on the number of cows and heifers, 2 years old and over, kept for milk, and the number of heifers one to two years old being kept for milk. Crops and Markets Monthly Supplement, United States Department of Agriculture, Vol. 3, No. 2, p. 39, 42. February, 1926.

On January 1st, 1926, there were in New York, 9 cows for each heifer, one to two years old, and for the North Atlantic States, 8 cows.

One heifer raised per year for each 8 cows will not maintain the dairy herds. As a result of unfavorable prices there is now a shortage of the older heifers and younger cows. The number of heifer calves now being raised is much higher and probably soon will be too high.

G. F. WARREN and F. A. PEARSON

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet Pota-toes
	bu.	bu.	bu.	bu.	bu.	bu.	bu.	lb.	ton	bu.	bu.	bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September ..	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November ..	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1925												
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September ..	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November ..	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December ..	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	5.43	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	5.81	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	5.39	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	5.46	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	5.51	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	5.26	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	5.18	15.4	12.96	......	174.6	185.6

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1925												
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	190
October ..	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January ..	120	104	181	97	121	139	241	140	113	......	352	190
February ..	115	99	174	88	114	127	262	145	108	......	344	195
March	110	97	164	87	116	117	247	133	108	......	337	196
April	106	97	160	85	114	120	249	134	106	......	397	194
May	104	96	158	85	116	117	243	127	107	......	352	197
June	101	93	153	83	119	116	228	127	105	......	274	207
July	103	90	146	90	114	125	225	121	108	......	235	202

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.08
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.7	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	22[illegible]
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
August	166	57	173	174	169	118	123	128	166	208	214	163
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	158
December	178	54	181	160	163	121	118	133	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Onions	Pota-toes	Apples	Cabbage
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	bu.	cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	75	2.28	15.42	105	69	103	1.03
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2 44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.35
1925	123	57	164	89	104	4.13	12.95	184	107	126	2.46
1925											
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85
December	95	50	160	75	87	4.50	14.30	157	218	120	2.47
1926											
January	94	51	169	77	88	6.10	14.30	......	244	136	......
February	95	50	173	76	87	6.30	13.90	......	245	128	......
March	90	50	163	77	85	6.00	14.20	......	245	129	......
April	90	51	158	74	85	5.90	14.10	......	300	130	......
May	89	53	158	76	89	6.00	14.50	......	290	124	......
June	88	50	157	77	94	6.00	15.00	......	225	135	......
July	88	52	149	72	97	5.80	15.30	......	170	140	......

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Pota-toes	Apples	Cab-bage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
1925	164	119	166	116	139	174	84	188	151	152	234
1925											
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385
December	127	106	163	100	121	185	94	191	341	162	380
1926											
January	131	113	171	103	124	261	94	......	381	168	......
February	134	106	173	101	121	269	91	......	355	147	......
March	127	106	163	100	120	260	91	......	360	143	......
April	127	104	158	96	116	259	91	......	435	126	......
May	122	106	158	96	119	255	92	......	403	110	......
June	117	98	154	96	122	256	92	......	321	138	......
July	116	102	148	92	115	240	96	......	246	159	......

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1928	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	120	25.1	43	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1925												
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	115	23.5	61	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	117	25.6	46	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	127	26.9	38	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	126	26.8	33	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	133	28.5	31	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	133	28.4	29	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	133	28.1	30	46	2.05	92.00	11.50	6.20	5.70	13.40	34	12.60
July	129	28.0	32	45	......	93.00	11.50	5.60	5.80	12.30	35	12.60

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	93
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	78	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
1925	68	170	154	155	153	137	136	108	149	202	210	154
1925												
August	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159
December	65	170	149	156	140	145	139	108	147	209	210	163
1926												
January	68	188	121	150	139	154	143	112	141	199	195	157
February	73	192	119	148	141	155	146	121	154	200	191	160
March	72	189	118	155	147	150	144	119	136	190	186	157
April	73	193	148	157	162	159	152	121	132	176	176	159
May	75	191	153	159	184	165	140	103	148	188	175	158
June	74	185	150	164	192	162	146	113	134	202	170	170
July	74	184	145	167	......	165	141	103	139	187	167	168

[1] Net pool price of 3.7% milk at Utica, N. Y.

PRICES OF FEED IN STRAIGHT CARS AT UTICA, NEW YORK

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wheat Bran	Standard mid'lings	Wheat mixed feed	Linseed oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	20.36
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	20.37
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	20.12
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	20.43
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	20.67
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	20.35
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	20.82
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	21.81
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	22.22
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	21.36
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	21.09
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	20.80
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	22.42
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	34.10	57.09	30.61	22.56
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	23.40
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	40.59
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59.86	104.88	55.45	42.38
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	44.95
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	46.05
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	92.14	35.70	26.39
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	88.42	37.13	26.03
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	88.60	42.48	30.16
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	70.49	41.64	29.63
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.06	41.81	31.09
1925												
August	48.07	45.53	41.17	38.65	32.57	35.23	37.05	53.07	55.63	68.47	43.04	30.90
September	43.31	45.53	37.50	36.28	31.57	35.07	36.58	49.40	50.88	73.80	41.18	29.65
October	39.92	42.37	33.67	36.42	30.47	31.97	35.68	47.98	45.53	76.30	38.75	28.27
November	41.59	43.97	36.04	37.22	33.54	34.13	36.94	49.21	44.42	77.55	40.22	29.51
December	38.89	44.63	36.00	38.68	34.50	33.50	37.05	51.61	44.08	80.88	40.57	28.96
1926												
January	39.05	45.30	35.54	39.33	34.94	34.77	37.33	52.32	43.25	81.38	40.96	29.26
February	37.27	42.26	32.70	37.61	32.33	32.33	35.80	49.95	42.45	82.30	38.68	28.24
March	35.61	38.71	30.88	36.82	30.40	30.29	33.06	47.38	41.46	79.47	36.49	26.95
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	....	37.21	21.72
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	....	36.30	20.74
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	....	36.12	20.42
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	77.98	37.53	27.89
August 3	40.35	39.65	35.50	39.50	30.00	31.00	33.00	52.80	41.50	83.80	38.12	29.04

INDEX NUMBERS (CORRESPONDING MONTHS, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Standard mid'lings	Wheat mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	175	122	122
1922	107	137	110	106	117	116	119	156	165	168	127	116
1923	138	164	136	121	136	134	134	149	168	168	146	133
1924	155	150	147	134	127	125	129	141	159	131	143	136
1925	164	149	149	127	134	135	139	143	149	133	143	151
1925												
August	152	154	139	116	132	129	141	154	162	131	143	143
September	133	149	120	113	127	129	137	140	149	140	135	137
October	130	147	114	117	129	124	136	139	142	143	134	132
November	138	155	125	120	140	135	142	144	141	145	141	139
December	135	151	128	124	139	132	140	151	140	151	140	141
1926												
January	142	150	128	127	134	133	138	151	132	157	139	146
February	136	138	118	118	123	123	132	144	132	158	130	142
March	133	132	116	116	116	116	122	142	130	152	126	136
April	129	135	120	116	129	127	131	157	127	......	130	132
May	120	138	112	111	124	116	129	154	127	......	127	128
June	121	140	111	110	125	117	126	154	127	......	127	128
July	132	150	120	111	128	117	128	160	129	149	133	129
August 3rd	128	135	119	119	121	113	125	153	121	160	127	131

FARM ECONOMICS

Department of Agricultural Economics and Farm Management
NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.
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No. 37 September, 1926

BUSINESS CONDITIONS:—PRE-WAR = 100

Year	Farm Prices New York[1]	Farm Prices United States[1]	Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
1913	97	99	102	96	115	111	....
1914	103	101	100	96	99	81	....
1915	100	101	103	119	71	101	101
1916	116	119	130	152	71	130	114
1917	170	180	181	140	98	124	129
1918	186	206	198	130	121	121	160
1919	206	215	210	160	112	94	185
1920	217	214	231	144	153	109	222
1921	144	119	150	118	135	48	203
1922	134	124	152	146	92	77	197
1923	142	137	157	155	102	112	214
1924	128	140	153	166	81	85	218
1925	147	154	162	221	83	97	223
Jan., 1925	136	154	163	201	83	110	223
February	136	153	164	203	86	111	220
March	136	157	164	200	88	109	224
April	141	152	159	201	90	102	218
May	150	151	158	209	89	91	221
June	157	153	161	214	87	87	220
July	150	156	163	222	80	88	220
August	156	160	164	228	74	88	222
September	148	152	163	236	76	89	223
October	147	151	161	243	78	92	225
November	165	153	161	248	84	97	226
December	159	152	159	250	87	103	229
Jan., 1926	156	150	159	252	99	106	229
February	154	150	158	255	100	98	225
March	156	146	155	239	97	103	229
April	169	146	154	232	96	106	227
May	173	146	155	233	93	105	226
June	174	146	155	242	87	104	228
July	160	144	154	249	81	104	227
August	....	140	151	256	78	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

Business continues active and there is no question but that 1926 will be recorded as an unusually prosperous year. The unprecedented urban prosperity which has existed since 1924 is in sharp contrast with farm conditions.

Despite the fact that on August 13th, the New York Federal Reserve Bank raised its discount rate from 3.5 per cent to 4 per cent, money is one of the cheapest things in the United States, and apparently will continue to be cheap for some time to come. Interest rates are 78 per cent of prewar.[1]

Industrial concerns continue to report phenomenal earnings. The cheap money and huge earnings, which caused the spectacular rise in the stock market during 1925, are the major factors contributing to the maintenance of prices of industrial stocks at the present unprecedented level, 2.5 times prewar. The average of 70 industrial stocks which is 256 per cent of prewar, is one point above the peak of last February.

Wholesale prices continue to decline. Since last August, there has been a drop of 13 points, or from 164 to 151. This is due primarily to the decline in the prices of farm products.

FARM PRICES

Farm prices dropped in August. The index number of prices paid to producers for farm products in the United States is 140 when prewar is considered as 100, which is 20 points below the level of August, 1925, and is the lowest index since September, 1924.

The index numbers of the prices of the grain crops, cotton and hay rose, while with the exception of sheep and lambs, all livestock and livestock products fell. The lower prices of livestock and livestock products more than offset the slightly higher prices of the major crops.

Prices of farm products in New York State declined even more than for the United States, but are slightly above the level of a year ago.

The persistent decline in the index number of farm products for 12 months vividly portarys the distress of agriculture which is in bold contrast to the unprecedented prosperity of the urban centers. Everywhere the city population is happy and contented and the rural population is generally disheartened and discontented. It is always difficult for a group of people who are experiencing unusual prosperity to fully appreciate the condition of those who suffer from economic inequalities.

A part of the present urban prosperity is a result of cheap money, building shortage, and many other causes usually given by financial observers, but a goodly part is due to an invisible transfer of wealth from the farms to the cities. In so far as cheap food decreases the purchasing power of the farmer, it increases the purchasing power of the urban people. Much has been said concerning the low purchasing power of farmers but little has been said of the consequent high purchasing power of the city population.

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[1] In this number the interest rates differ from those given in previous numbers because of the change from "good" to "prime" commercial paper.

Since food takes such an unusually small part of the budget, the balance of the money income is available for other things. These other things are mostly made in cities and the unusual demand maintains business activity. A few farm products are in the luxury class and have been benefited by the depression.

Popular opinion holds that one class cannot profit at the expense of another. This is true when one deals with a sufficiently long period of time, but one class can profit at the expense of another class for many years. For the seventh crop year, farmers have furnished cheap food to the cities. A steady transfer of wealth from farms to cities is taking place. When such a transfer is occurring, the group that is suffering becomes discontented and the group that is receiving an unearned income wonders why the pessimism.

The price of dairy feed was very cheap in May and June and rose in July and has since declined. At August prices, a dairy ration could be purchased at 25 per cent above prewar prices. This is less than the prices of such a ration have been since September, 1922.

Linseed oil meal and gluten feed were high when compared with other feeds but have declined and are more nearly in line with prices of other feeds.

G. F. WARREN and F. A. PEARSON

CAPITAL AND INCOME ON SHARE RENTED FARMS

In most cases, a hired man becomes a tenant only after he has accumulated some capital in the form of cash, livestock or machinery, or has credit enough to buy stock and tools. How much capital he must have depends not only on the type of farming, but also on how much the landlord will furnish. A cash tenant, who frequently owns all the stock and tools used, needs more of his own capital than does a share tenant who has a part of these furnished by the owner. But even for share tenants, capital owned by them varies considerably in different areas.

TABLE 1.—RELATION OF TYPE OF FARMING TO OPERATOR'S AND LANDLORD'S CAPITAL

Farm type	Area	Year	Number of farms	Average capital per farm		
				Operator	Landlord	Total
Fruit	Nigara Co.	1923	42	$1,384	$20,375	$21,759
Crop	Livingston Co.	1918	144	2,457	15,420	17,877
	Monroe Co.	1914	24	2,074	13,613	15,687[2]
Dairy with cash crops	Tully-Homer[1]	1921	10	3,174	20,374	23,548
	Earlville[1]	1921	18	2,128	16,435	18,563
	Munnsville[1]	1921	15	1,602	15,066	16,668
	Tompkins Co.	1917	39	1,624	8,997	10,621
Dairy without cash crops	Oxford[1]	1921	13	1,929	13,451	15,380
	Norwich[1]	1921	13	862	11,552	12,414
	Jefferson Co.	1921	35	1,782	11,059	12,841
	Herkimer Co.	1914	23	949	6,561	7,510[3]

[1] Tully and Homer farms are in Southern Onondaga and Northern Cortland Counties;
Part of the Earlville farms are in Southern Madison and part in Northern Chenango Counties;
Munnsville is in Madison County; Oxford and Norwich in Chenango County.

[2] Includes an average of $71 as "Cash to run farm."

[3] Includes an average of $48 as "Cash to run farm."

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Flaxseed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Potatoes bu.	Sweet Potatoes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.8	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.8	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1925												
August	106.5	40.7	150.4	67.1	110.0	229.5	4.00	23.4	12.25	241	155.4	196.3
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	5.43	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	5.81	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	5.39	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	5.46	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	5.51	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	5.26	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	5.18	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	5.51	16.1	13.04	......	140.5	189.0

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buckwheat	Flaxseed	Beans	Cotton*	Hay	Onions	Potatoes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1925												
August	150	101	177	117	142	134	174	187	106	215	175	203
September	135	97	165	103	136	134	169	184	107	177	151	190
October	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January	120	104	181	97	121	139	241	140	113	......	352	190
February	115	99	174	88	114	127	262	145	108	......	344	195
March	110	97	164	87	116	117	247	133	108	......	337	196
April	106	97	160	85	114	120	249	134	106	......	397	194
May	104	96	158	85	116	117	243	127	107	......	352	197
June	101	93	153	83	119	116	228	127	105	......	274	207
July	103	90	146	90	114	125	225	121	108	......	235	202
August	112	95	147	96	121	126	240	129	113	......	158	195

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
August	131	80	20.8	30.0	40.0	58.26	6.58	8.80	7.32	11.80	38.1	12.19
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.7	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
August	166	57	173	174	169	118	123	128	166	208	214	163
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	153
December	178	54	181	160	163	121	118	133	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	156

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Beans bu.	Hay ton	Onions bu.	Potatoes bu.	Apples bu.	Cabbage cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	75	2.28	15.42	105	69	103	1.08
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.35
1925	123	57	164	89	104	4.13	12.95	184	107	126	2.46
1925											
August	120	55	151	90	106	4.20	13.20	220	186	130	3.00
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85
December	95	50	160	75	87	4.50	14.30	157	218	120	2.47
1926											
January	94	51	169	77	88	6.10	14.30	......	244	136	......
February	95	50	173	76	87	6.30	13.90	......	245	128	......
March	90	50	163	77	85	6.00	14.20	......	245	129	......
April	90	51	158	74	85	5.90	14.10	......	300	130	......
May	89	53	158	76	89	6.00	14.50	......	290	124	......
June	88	50	157	77	94	6.00	15.00	......	225	135	......
July	88	52	149	72	97	5.80	15.30	......	170	140	......
August	91	50	139	73	97	5.50	14.70	......	160	110	......

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Potatoes	Apples	Cabbage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
1925	164	119	166	116	139	174	84	188	151	152	234
1925											
August	156	108	157	117	131	171	89	210	211	188	224
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385
December	127	106	163	100	121	185	94	191	341	162	380
1926											
January	131	113	171	103	124	261	94	......	381	168	......
February	134	106	173	101	121	269	91	......	355	147	......
March	127	106	163	100	120	260	91	......	360	143	......
April	127	104	158	96	116	259	91	......	435	126	......
May	122	106	158	96	119	255	92	......	403	110	......
June	117	98	154	96	122	256	92	......	321	138	......
July	116	102	148	92	115	240	96	......	246	159	......
August	118	98	145	95	120	224	100	......	182	159	......

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	120	25.1	43	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1925												
August	123	25.6	40	46	2.35	77.90	11.00	6.20	5.80	11.90	43	12.00
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	115	23.5	61	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	117	25.6	46	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	127	26.9	38	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	126	26.8	33	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	133	28.5	31	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	133	28.4	29	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	133	28.1	30	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	129	28.0	32	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	128	26.7	36	45	......	92.00	11.80	5.70	5.70	11.70	35	12.20

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	93
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	78	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
1925	68	170	154	155	153	137	136	108	149	202	210	154
1925												
August	69	162	160	164	156	137	130	110	135	188	215	155
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159
December	65	170	149	156	140	145	139	108	147	209	210	163
1926												
January	68	188	121	150	139	154	143	112	141	199	195	157
February	73	192	119	148	141	155	146	121	154	200	191	160
March	72	189	118	155	147	150	144	119	136	190	186	157
April	73	193	148	157	162	159	152	121	132	176	176	159
May	75	191	153	159	184	165	140	103	148	188	175	158
June	74	185	150	164	193	162	146	113	134	202	170	170
July	74	184	145	167	175	165	141	103	139	187	167	168
August	72	169	144	161	......	162	139	101	133	185	175	158

[1] Net pool price of 3.7% milk at Utica, N. Y.

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wheat Bran	Standard. mid'lings	Wheat mixed feed	Linseed oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	20.36
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	20.37
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	20.12
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	20.43
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	20.67
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	20.35
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	20.82
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	21.81
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	22.22
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	21.36
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	21.09
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	20.80
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	22.42
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	34.10	57.09	30.61	22.56
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	23.40
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	40.59
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59.86	104.88	55.45	42.38
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	44.95
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	46.05
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	92.14	35.70	26.39
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	88.42	37.13	26.03
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	88.60	42.48	30.16
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	70.49	41.64	29.63
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.06	41.81	31.09
1925												
August	48.07	45.53	41.17	38.65	32.57	35.23	37.05	53.07	55.63	68.47	43.04	30.90
September	43.31	45.53	37.50	36.28	31.57	35.07	36.58	49.40	50.88	73.80	41.18	29.65
October	39.92	42.37	33.67	36.42	30.47	31.97	35.68	47.98	45.53	76.30	38.75	28.27
November	41.59	43.97	36.04	37.22	33.54	34.13	36.94	49.21	44.42	77.55	40.22	29.51
December	38.89	44.63	36.00	38.68	34.50	33.50	37.05	51.61	44.08	80.88	40.57	28.96
1926												
January	39.05	45.30	35.54	39.33	34.94	34.77	37.33	52.32	48.25	81.38	40.96	29.26
February	37.27	42.26	32.70	37.61	32.33	32.33	35.80	49.95	42.45	82.30	38.68	28.24
March	35.61	38.71	30.88	36.82	30.40	30.29	33.06	47.38	41.46	79.47	36.49	26.95
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	....	37.21	21.72
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	....	36.30	20.74
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	....	36.12	20.42
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	77.98	37.53	27.89
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	83.80	37.69	28.74

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Standard. mid'lings	Wheat mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	175	122	122
1922	107	137	110	106	117	116	119	156	165	168	127	116
1923	138	164	136	121	136	134	134	149	168	168	146	133
1924	155	150	147	134	127	125	129	141	159	131	143	136
1925	164	149	149	127	134	135	139	143	149	133	143	151
1925												
August	152	154	139	116	132	129	141	154	162	131	143	148
September	133	149	120	113	127	129	137	140	149	140	135	137
October	130	147	114	117	129	124	136	139	142	143	134	132
November	138	155	125	120	140	135	142	144	141	145	141	139
December	135	151	128	124	139	132	140	151	140	151	140	141
1926												
January	142	150	128	127	134	133	138	151	132	157	139	146
February	136	138	118	118	123	123	132	144	132	158	130	142
March	133	132	116	116	116	116	122	142	130	152	126	136
April	129	135	120	116	129	127	131	157	127	......	130	132
May	120	138	112	111	124	116	129	154	127	......	127	128
June	121	140	111	110	125	117	126	154	127	......	127	128
July	132	150	120	111	128	117	128	160	129	149	138	129
August	125	135	119	114	118	119	123	150	120	160	125	129

Land, the number and quality of cows, and equipment, and work stock needed to run the business account for the bulk of the investment in farming. Distribution of investment is shown in Table 2.

TABLE 2.—AVERAGE CAPITAL PER FARM ON SHARE RENTED FARMS IN VARIOUS AREAS.

Area	Real estate	Machinery	Feed & supplies	Work stock	Dairy cattle	Other stock
Niagara Co.	$19,862	$1,216	$140	$368	$251	$124
Livingston Co.	14,113	1,032	352	406	965	633
Monroe Co.	13,215	780	184	890	400	148
Tully-Homer	17,292	2,107	237	829	3,109	88
Earlville	12,866	1,540	176	545	3,514	61
Munnsville	12,432	933	123	465	2,675	88
Tompkins Co.	7,492	837	250	597	1,423	143
Oxford	10,973	1,331	187	459	2,312	110
Norwich	8,669	642	80	402	2,550	56
Jefferson Co.	9,793	1,092	84	509	1,255	110
Herkimer Co.	5,090	402	344	487	1,155	108

Family relationships give one explanation of why some landlords furnish much more of the working capital than do others. In regions of relatively poor opportunity, landlords often find it necessary to furnish all the capital needed in order to get tenants for their farms. Other causes affecting the distribution of capital between landlord and tenant are the custom of the community and individual peculiarities of the farm, of the tenant or of the landlord.

TABLE 3.—DISTRIBUTION OF CAPITAL BETWEEN LANDLORD AND TENANT

	Per cent of Capital Owned by:							
	Landlord				Tenant			
Area	Machinery	Work stock	Dairy cattle	Total	Machinery	Work stock	Dairy cattle	Total
Niagara Co.	36	18	57	94	64	82	43	6
Livingston Co.	16	44	55	86	84	56	45	14
Monroe Co.	6	7	30	80	94	93	70	20
Tully-Homer	33	38	65	87	67	62	35	13
Earlville	50	38	71	89	50	62	29	11
Munnsville	42	43	73	90	58	57	27	10
Tompkins Co.	42	25	60	84	58	75	40	16
Oxford	27	20	84	87	73	80	16	13
Norwich	44	34	92	93	56	66	8	7
Jefferson Co.	10	4	85	86	90	96	15	14
Herkimer Co.	28	13	92	87	72	87	8	13

An ideal agreement between landlord and tenant is one that promises the best results when the farm, the tenant, and the landlord are considered. Good farming is just as essential as an equitable division of returns. The first consideration is the organization of the business. When this is mutually agreed upon, there follows a bargaining process for sharing receipts and expenses. Custom of the community plays an important part in deciding on the division of most items, yet all sorts of variations are to be found within a given area. Seldom are adjustments made after the lease has been signed. Consequently returns to operators and owners fluctuate widely. High or low returns to operators do not mean corresponding high or low returns to owners. Some variations in returns are shown in Table 4.

TABLE 4.—VARIATIONS IN INCOME ON SHARE RENTED FARMS

		Average for all farms		Highest returns to tenants, 5 Farms		Lowest returns to tenants, 5 Farms		Highest returns to landlords, 5 Farms		Lowest returns to landlords, 5 Farms	
Area	Number of farms	Operator's labor income	Landlord's percent return	Operator's labor income	Landlord's percent return	Operator's labor income	Landlord's percent return	Landlord's percent return	Operator's labor income	Landlord's percent return	Operator's labor income
Niagara Co.	42	$96	3.6	$1,329	5.5	—$1,731	2.4	9.3	$660	—1.1[1]	—$402
Livingston Co.	144	279	5.6	1,568	9.3	— 1,150	3.3	14.9	717	—2.3[2]	59
Monroe Co.	24	307	4.7	827	5.6	— 78	3.1	7.6	234	2.4	122
Tully-Homer	10	854	7.3	1,822	11.5	— 114	3.2	12.7	1,050	3.6	658
Earlville	18	446	5.8	1,340	12.1	— 581	3.7	13.1	798	—0.1[3]	20
Munnsville	15	456	4.8	1,136	3.6	— 155	4.6	10.0	620	0.9	374
Tompkins Co.	39	447	8.5	1,301	13.9	— 70	4.9	17.3	745	2.0	167
Oxford	13	201	6.4	906	9.8	— 630	1.4	11.8	661	2.1	— 484
Norwich	13	4	4.0	401	3.2	— 380	3.9	6.7	—278	1.9	221
Jefferson Co.	35	—141	4.0	665	6.0	— 1,056	1.2	11.6	120	0.5	— 422
Herkimer Co.	23	186	5.7	536	6.7	— 184	2.3	9.7	397	0.04	— 4

[1] Landlord's share of receipts averaged $136 less than the expenses.
[2] Landlord's share of receipts averaged $288 less than the expenses.
[3] Landlord's share of receipts averaged $23 less than the expenses.

J. F. HARRIOTT

THE PRICE AND PRODUCTION OF MILK IN THE CHICAGO MARKET

For the six years, January 1, 1910 to March 31, 1916, the production of milk per dairy[1] fluctuated closely with the purchasing power of milk.[2] (Coefficient of correlation, $r = +0.51 \pm 0.06$). As a rule, when the purchasing power of milk in terms of the general price level was high, production was also high, and conversely, when the purchasing power of milk was low, production declined.

During this period, the dealers posted the price of milk twice each year for six months in advance. Apparently, this was sufficient time for dairy producers to adjust their production to the purchasing power of milk so that the production fluctuated each month with the price of milk. This relationship is shown in Figure 1.

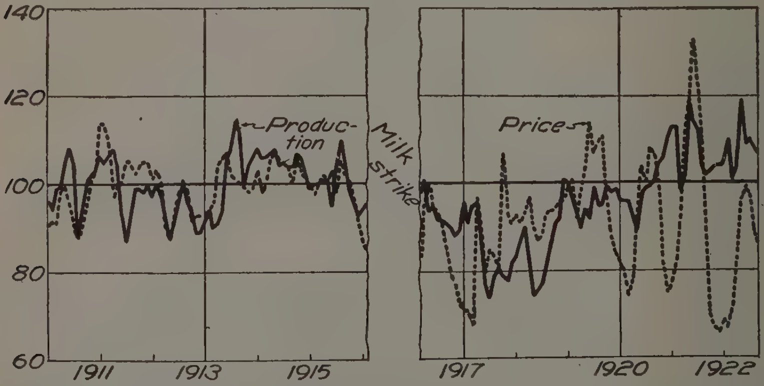

FIGURE 1.—PURCHASING POWER OF THE PRICE OF MILK AND THE AVERAGE PRODUCTION OF MILK PER DAIRY.

From 1910 to 1916, there was a very close relationship existing between the price of milk and the production per dairy per day. From 1917 to 1922, the relationship still existed, but was somewhat irregular and lagged four months.

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[1] Based on the deliveries of milk by some 500 dairy farmers to six country plants tributary to Chicago, for the period, 1910 to 1922, inclusive. These plants were located in Kane, Cook, and McHenry Counties in northern Illinois. Corresponding months, 1910 to 1914 = 100. Data furnished by H. A. Ross, Cornell University.

[2] Based on prices paid for 3.5 per cent milk at country plants in the Chicago dairy district by one of the larger distributing companies. Corresponding months, 1910 to 1914 = 100. Data furnished by H. A. Ross.

For the seven years, April, 1916 to 1922 inclusive, the production of milk tended to follow the purchasing power of milk with a lag of four months. During this period there were many disagreements between the producers and purchasers of milk, which resulted in several milk strikes; the formation of cooperative marketing association and the appointment of a milk committee by Mr. Hoover to stabilize the price of milk. Needless to say, these were important influences affecting the price and production of milk. This is well illustrated by comparing the variability in prices and production during this period with those in the preceding period. From 1916 to 1922, the variability in the purchasing power of the price of milk was 129 percent greater than in the period from 1910 to 1916, while the variability in the production of milk was only 76 percent greater[3].

Despite the fact that there were so many factors which tended to confuse the producers, there was a positive relationship between the purchasing power of milk and the production four months later. (Coefficient of correlation, $r = +0.57 \pm 0.05$)[4].

During this period, the purchasing power of milk in terms of dairy feeds was increasing,—that is, there was a general tendency for 100 pounds of milk to buy a larger quantity of feed. This increase in the purchasing power of milk in terms of feed was greatest from 1921 to 1925. This was due, in part, to the low prices of those feeds normally fed to dairy cattle, and in part, to the high prices which milk buyers could pay because of the greater demand for milk. High city wages, prohibition, and education have, no doubt, greatly stimulated the consumption of milk in our large cities during this period.

About 45 percent of the concentrates fed to dairy cattle in the Chicago district are purchased feeds. From 1910 to 1920, the purchasing power of dairy feeds and purchased feeds moved in much the same manner. The precipitous decline in farm prices during the agricultural depression carried farm feeds much below the level of purchased feeds. High wages, freight rates, and city handling charges explain this disparity. A similar study for New York State showed that the adjustments of milk production to prices were made less promptly.[5]

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[3] Variability in Prices and Production of Milk in the Chicago District, standard variations.

	1910 to 1916	1916 to 1922
Purchasing power of milk	6.16 ± 0.34	14.14 ± 0.78
Production of milk	6.08 ± 0.33	10.72 ± 0.59

[4] Other coefficients of correlation:—Production and purchasing power of milk, 1916 to 1922.

No lag	$r = -0.12 \pm 0.07$
Production lagged 1 month	$r = +0.13 \pm 0.07$
Production lagged 2 months	$r = +0.40 \pm 0.06$
Production lagged 3 months	$r = +0.56 \pm 0.05$
Production lagged 4 months	$r = +0.57 \pm 0.05$
Production lagged 5 months	$r = +0.55 \pm 0.05$
Production lagged 6 months	$r = +0.04 \pm 0.08$

[5] Spencer, L. Effect of Price Changes Upon the Rate of Milk Production in Broome and Chenango Counties, New York. Farm Economics, No. 31, p. 399, Feb. 6, 1926.

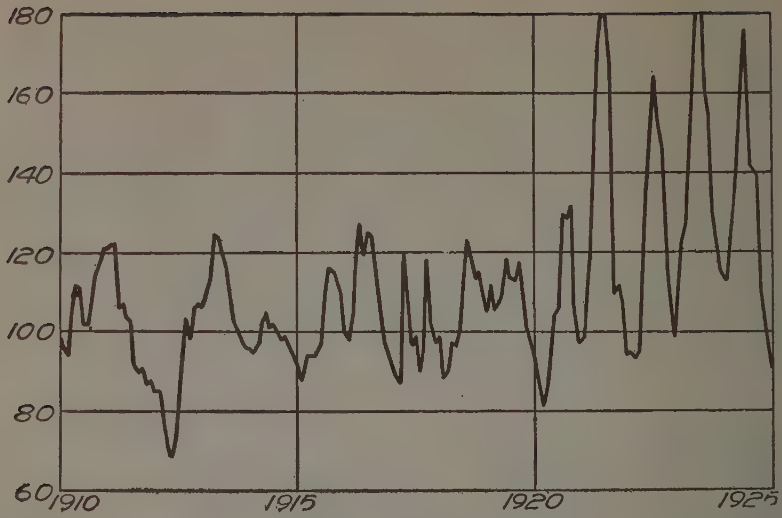

FIGURE 2.—PURCHASING POWER OF THE PRICE OF MILK IN TERMS OF DAIRY FEEDS.

From 1910 to 1920, the purchasing power of milk in terms of feed was comparatively stable. Since 1920, there has been a rapid increase in the purchasing power of milk.

TABLE 1.—INDEX NUMBERS OF ILLINOIS DAIRY FEED PRICES*
Corresponding Months, 1910 — 1914 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	96	100	101	97	92	89	90	88	87	87	88	87
1911	89	88	85	87	88	90	97	109	108	109	115	114
1912	118	120	123	127	133	129	121	104	98	96	90	89
1913	90	88	87	85	86	89	89	93	101	102	102	104
1914	107	104	104	104	102	103	102	107	106	106	106	106
1915	109	114	110	110	109	109	103	98	90	91	91	91
1916	100	101	98	99	98	99	95	94	98	106	117	118
1917	120	128	132	142	154	155	164	179	161	170	171	175
1918	175	196	198	193	183	170	156	155	165	172	173	180
1919	196	177	175	186	194	200	205	216	203	191	191	201
1920	210	216	220	228	240	248	231	198	194	164	155	141
1921	138	124	120	112	102	103	99	96	93	91	91	101
1922	102	103	109	107	107	102	94	92	92	100	106	113
1923	118	115	116	116	119	116	113	117	120	124	124	126
1924	130	125	124	124	122	123	132	127	125	127	126	134

*The index of feed prices was weighted as follows: Wheat bran .2035 ton; gluten .1215 ton; cottonseed meal .0745 ton; linseed oil meal .0355 ton; wheat middlings .0335 ton; hominy .0200 ton; hay 1 ton; corn 10.29 bu.; oats 4.88 bu.; barley 1.15 bu. Based upon, Pearson, F. A., The Cost of Milk Production, University of Illinois Agricultural Experiment Station Bul. 216, page 347, table 2; 1919. Prices of mill feeds based upon Chicago and Milwaukee quotations. Prices of corn, oats, barley, and hay, are Illinois farm prices as reported by the United States Department of Agriculture.

TABLE 2.—INDEX NUMBERS OF PURCHASED DAIRY FEEDS
Corresponding Months, 1910 — 1914 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1910	105	106	105	96	95	94	102	97	93	95	96	96
1911	94	93	92	97	96	98	99	100	101	108	107	108
1912	107	111	111	114	111	109	107	100	96	97	93	94
1913	93	89	86	86	92	94	92	96	103	103	101	100
1914	100	101	106	107	105	105	100	106	98	98	102	102
1915	100	106	100	105	101	104	105	101	96	101	99	102
1916	101	102	101	102	100	108	101	106	108	125	141	137
1917	135	143	153	171	162	154	173	176	165	175	179	193
1918	165	186	186	188	181	180	172	173	172	180	178	193
1919	213	189	193	205	208	211	237	245	224	225	229	236
1920	229	231	242	257	265	269	246	219	200	172	166	149
1921	136	117	124	110	102	104	104	105	100	101	105	123
1922	118	123	132	132	129	122	116	106	107	130	138	141
1923	143	145	148	145	145	136	133	139	149	158	153	143
1924	136	126	125	123	117	128	140	139	137	146	143	151

Purchased feeds consist of bran, gluten, cottonseed meal, linseed oil meal, middlings, and hominy. Dairy feed index is composed of farm grains, purchased feeds, and hay.

D. C. MUMFORD

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FARM ECONOMICS

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NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 38 October, 1926

BUSINESS CONDITIONS:—PRE-WAR = 100

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	115	111	....
1914	103	101	100	96	99	81	....
1915	100	101	103	119	71	101	101
1916	116	119	130	152	71	130	114
1917	170	180	181	140	98	124	129
1918	186	206	198	130	121	121	160
1919	206	215	210	160	112	94	185
1920	217	214	231	144	153	109	222
1921	144	119	150	118	135	48	203
1922	134	124	152	146	92	77	197
1923	142	137	157	155	102	112	214
1924	128	140	153	166	81	85	218
1925	147	154	162	221	83	97	223
Jan., 1925	136	154	163	201	83	110	223
February	136	153	164	203	86	111	220
March	136	157	164	200	88	109	224
April	141	152	159	201	90	102	218
May	150	151	158	209	89	91	221
June	157	153	161	214	87	87	220
July	150	156	163	222	80	88	220
August	156	160	164	228	74	88	222
September	148	152	163	236	76	89	223
October	147	151	161	243	78	92	225
November	165	153	161	248	84	97	226
December	159	152	159	250	87	103	229
Jan., 1926	158	150	159	252	99	106	229
February	156	150	158	255	100	98	225
March	158	145	155	239	97	103	229
April	171	146	154	232	96	106	227
May	176	145	155	233	93	105	226
June	176	146	155	242	87	104	228
July	163	143	154	249	81	104	227
August	150	140	152	256	79	102	227
September	....	140	151	254	78	....	....

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

City business continues active. Money is relatively cheap. Wages have been stable at a high level for two years, and there is little unemployment. There is nothing on the immediate horizon to indicate that business will not be good for the rest of the year. The high price of industrial stocks, 254 per cent of prewar, has largely discounted the huge earnings and cheap money that have prevailed for the past year or two.

FARM PRICES IN THE UNITED STATES

The striking fact about farm prices this year is the decided decline from last year. From the exceedingly low point of the depression in 1921, when prices were almost at the prewar level, there was a more or less steady improvement until last fall. Since then, there has been a steady decline, carrying prices back to the level of the winter of 1923, or 40 percent above prewar prices.

If the average for all states were 40 percent above prewar, conditions would not be so serious as they are. In certain states, the average is much above this level and in others much below. Prices in the most intensive food producing region, centering about Iowa, are lowest. A comparison of prices paid to Iowa farmers with wages of factory workers explains the discontent.

Date	Prices paid to Iowa farmers prewar = 100	Wages of factory workers prewar = 100
1921	102	203
1922	106	197
1923	113	214
1924	121	218
1925	142	223
August, 1926	129	227

During the past year, a decline has occurred in the farm price of cotton. Four cotton crops brought excellent prices, at the same time that food crops have been very cheap. This resulted in an increase in the acreage of cotton and a reduction in the acreage of other crops in the Southern states. This year, the large acreage of cotton and a fair yield per acre resulted in a very large crop. The price of cotton is still nearly as high as the average of all farm products.

The products that have continued low for longest period of time are corn, oats, barley, hay, horses, and beef cattle.

Hogs were very cheap for four years. The resulting shortage has raised prices slightly above the general price level. Hogs are about as high as the average index of non-agricultural commodities.

FARM PRICES IN NEW YORK

Prices of farm products in New York reached the lowest level two years ago. Since then there has been a decided improvement. The improvement, however, is not statewide. It is due to better prices for milk, potatoes, poultry and eggs.

The improvement in price of potatoes was due primarily to low yields. Unfavorable weather has made the yield per acre low for the past two years.

The improvement in the price of milk has come about as a result of reduction of more than one-fourth in the number of the heifers raised when milk was very cheap. This reduction promises to give a fair milk market for at least a year and probably longer. The shortage of cows has also resulted in a material increase in the price of dairy cows. In September, 1924, dairy cows were selling for 19 per cent above prewar. They are now selling at 68 percent above prewar.

The portion of New York State that is suffering most at the present time from the agricultural depression is western New York. For one hundred years, this has been a highly prosperous region and certainly will be again. It has a remarkable soil and climate and has retained able men on farms, but its important products are grain crops, hay, and apples, all of which are very low in price. Beans and potatoes brought good prices last year, but unfavorable weather caused unusually heavy losses of these crops, an experience that promises to repeat itself this year. Even within this area some farmers are prosperous. Those who happened to depend on the things that were high in price and of which they had a good crop are very prosperous.

PRICE OF FEED

The index number of the price of the concentrates in a dairy ration is lower than it has been at any time since September, 1922. A dairy ration can be bought at 22 per cent above prewar prices. A poultry ration is slightly higher, because it includes meat scrap.

G. F. WARREN and F. A. PEARSON

EFFECT OF HOLIDAYS ON RETAIL SALES OF MILK AND CREAM IN GREATER NEW YORK

The work reported here is part of a study being carried on co-operatively by the Bureau of Agricultural Economics of the United States Department of Agriculture and the New York State College of Agriculture

The extent to which the sale of milk in Greater New York is affected by holidays depends on the proportionate amount that is consumed by employed people who lunch away from home. For instance, the sale of quarts of Grade B milk, which is largely for home consumption, is not greatly affected (Figure 1). Labor Day and the Fourth of July show the greatest decrease, because on these two days the family is most likely to take a holiday out of the city.

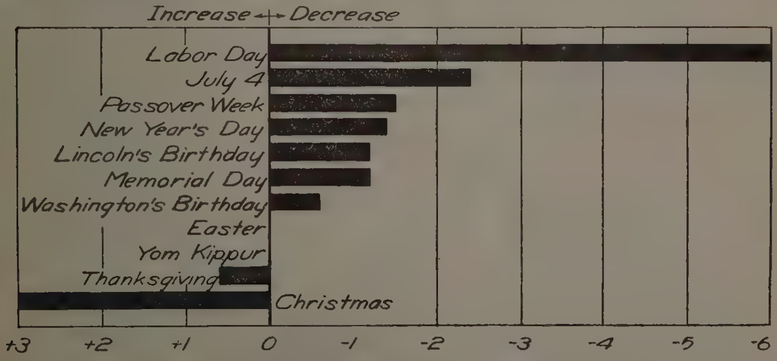

FIG. 1—EFFECT OF HOLIDAYS ON THE RETAIL SALES OF QUARTS OF GRADE B MILK IN GREATER NEW YORK

Sales of this product are little affected except on Labor Day, Christmas, and the Fourth of July

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1925												
September	98.8	38.1	144.4	60.8	101.4	227.9	3.87	22.5	12.42	177	121.1	177.4
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	3.26	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	3.49	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	3.23	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	3.28	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	3.31	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1925												
September	135	97	165	103	136	134	169	184	107	177	151	190
October	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January	120	104	181	97	121	139	145	140	113	......	352	190
February	115	99	174	88	114	127	157	145	108	......	344	195
March	110	97	164	87	116	117	148	133	108	......	337	196
April	106	97	160	85	114	120	150	134	106	......	397	194
May	104	96	158	85	116	117	146	127	107	......	352	197
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs. doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
September	112	77	20.4	31.1	41.1	58.68	6.27	9.07	7.27	11.95	37.8	11.50
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.7	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07

Index Numbers (corresponding months, 1910-14=100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
September	160	55	171	161	166	119	117	133	166	212	219	151
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	153
December	178	54	181	160	163	121	118	133	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	156
September	125	56	180	163	166	134	121	143	163	201	188	159

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Beans bu.	Hay ton	Onions bu.	Potatoes bu.	Apples bu.	Cabbage cwt.
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	c.	$
January	72	45	99	75	71	2.34	15.28	81	64	81	.81
February	71	47	100	75	72	2.34	15.22	89	69	87	.87
March	71	47	100	77	71	2.31	15.58	108	68	90	1.09
April	71	49	100	77	75	2.28	15.42	105	69	103	1.08
May	73	50	100	79	75	2.35	15.76	111	72	113	1.17
June	75	51	102	80	77	2.34	16.30	127	70	98	1.28
July	76	51	101	78	84	2.42	15.92	131	69	88	2.50
August	77	51	96	77	81	2.46	14.76	105	88	69	1.34
September	81	49	96	76	76	2.47	15.10	81	89	62	.87
October	79	47	97	75	74	2.44	15.24	78	69	61	.55
November	77	46	97	75	72	2.41	14.90	77	56	65	.48
December	75	47	98	75	72	2.43	15.28	82	64	74	.65
1914	82	49	99	70	82	2.49	14.87	112	75	85	1.00
1915	85	56	119	78	87	3.20	15.42	78	50	64	1.87
1916	91	53	124	82	93	4.68	14.60	122	117	77	1.32
1917	168	75	211	135	164	7.74	12.40	288	204	108	3.59
1918	195	91	209	150	181	7.25	17.89	127	121	119	2.00
1919	177	83	219	130	164	5.10	21.96	187	137	178	2.72
1920	174	101	236	151	172	4.86	25.05	206	232	169	3.14
1921	84	54	133	80	114	3.05	18.78	132	88	135	1.68
1922	76	51	113	71	97	3.68	16.43	239	94	154	1.69
1923	96	57	119	82	106	4.32	15.00	175	104	135	2.59
1924	111	58	124	83	103	3.86	15.53	145	83	117	2.35
1925	123	57	164	89	104	4.13	12.95	184	107	126	2.46
1925											
September	131	51	154	80	99	3.70	13.10	167	126	106	2.40
October	99	48	145	74	91	3.80	13.60	149	130	100	1.87
November	96	48	149	76	87	4.60	13.50	154	215	110	1.85
December	95	50	160	75	87	4.50	14.30	157	218	120	2.47
1926											
January	94	51	169	77	88	3.66	14.30	......	244	136	......
February	95	50	173	76	87	3.78	13.90	......	245	128	......
March	90	50	163	77	85	3.60	14.20	......	245	129	......
April	90	51	158	74	85	3.54	14.10	......	300	130	......
May	89	53	158	76	89	3.60	14.50	......	290	124	......
June	88	50	157	77	94	3.60	15.00	......	225	135	......
July	88	52	149	72	97	3.48	15.30	......	170	140	......
August	91	50	139	73	97	3.30	14.70	......	160	110	......
September	89	48	130	69	94	3.18	14.10	......	155	75	......

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck wheat	Beans	Hay	Onions	Potatoes	Apples	Cabbage
1914	109	102	100	91	109	105	97	114	106	102	95
1915	113	117	120	101	116	134	100	80	70	77	178
1916	121	110	125	106	124	197	95	124	165	93	126
1917	224	156	213	175	219	325	81	294	287	130	342
1918	260	190	211	195	241	305	116	130	170	143	190
1919	236	173	221	169	219	214	143	191	193	214	259
1920	232	210	238	196	229	204	163	210	327	204	299
1921	112	113	134	104	152	128	122	135	124	163	160
1922	101	106	114	92	129	155	107	244	132	186	161
1923	128	119	120	106	141	182	97	179	146	163	247
1924	148	121	125	108	137	162	101	148	117	141	224
1925	164	119	166	116	139	174	84	188	151	152	234
1925											
September	162	104	160	105	130	150	87	206	142	171	276
October	125	102	149	99	123	156	89	191	188	164	340
November	125	104	154	101	121	191	91	200	384	169	385
December	127	106	163	100	121	185	94	191	341	162	380
1926											
January	131	113	171	103	124	156	94	......	381	168	......
February	134	106	173	101	121	162	91	......	355	147	......
March	127	106	163	100	120	156	91	......	360	143	......
April	127	104	158	96	116	155	91	......	435	126	......
May	122	106	158	96	119	153	92	......	403	110	......
June	117	98	154	96	122	154	92	......	321	138	......
July	116	102	148	92	115	144	96	......	246	159	......
August	118	98	145	95	120	134	100	......	182	159	......
September	110	98	135	91	124	129	93	......	174	121	......

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League)

	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk[1] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	$	c.	c.	c.	$	$	$	$	$	$	c.	$
January	173	13.6	38	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	175	14.0	32	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	176	14.2	28	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	182	14.8	21	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	178	14.9	19	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	180	15.2	20	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	175	15.2	22	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	178	15.8	25	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	177	15.6	27	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	176	15.5	30	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	175	14.5	35	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	176	13.8	41	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	175	15.7	30	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	173	15.6	29	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	171	16.6	33	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	168	20.8	43	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	169	27.2	51	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	162	31.7	56	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	160	33.3	61	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	140	29.4	47	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	131	27.6	40	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	130	25.7	41	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	118	23.7	39	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	120	25.1	43	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1925												
September	122	24.8	44	48	2.47	83.90	11.70	5.80	6.00	12.30	43	12.20
October	123	24.7	50	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	116	23.7	64	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	115	23.5	61	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	117	25.6	46	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	127	26.9	38	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	126	26.8	33	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	133	28.5	31	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	133	28.4	29	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	133	28.1	30	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	129	28.0	32	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	128	26.7	36	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	128	26.2	41	47	......	96.00	12.20	5.70	5.90	11.70	36	12.50

Index Numbers (corresponding months, 1910-14=100)

	Horses	Chickens	Eggs	Butter	Milk	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	99	106	107	100	99	116	114	114	106	108	95	106
1915	98	105	104	100	101	118	111	106	113	115	129	93
1916	97	112	118	106	111	120	120	114	135	138	157	110
1917	95	141	154	135	164	149	154	145	204	203	252	183
1918	95	184	182	161	204	167	180	162	233	236	314	215
1919	92	214	200	194	221	198	197	169	214	223	267	215
1920	90	225	218	206	220	189	188	151	193	214	200	183
1921	79	199	168	152	155	127	127	101	108	140	95	116
1922	74	186	143	135	133	120	122	96	118	169	143	119
1923	78	174	146	158	150	130	128	99	131	184	195	109
1924	67	160	139	148	128	121	130	100	136	187	200	110
1925	68	170	154	155	153	137	136	108	149	202	210	154
1925												
September	69	159	163	160	155	147	134	102	147	200	205	154
October	70	159	167	165	143	144	139	103	153	207	200	152
November	66	163	183	166	141	147	136	106	168	206	205	159
December	65	170	149	156	140	145	139	108	147	209	210	163
1926												
January	68	188	121	150	139	154	143	112	141	199	195	157
February	73	192	119	148	141	155	146	121	154	200	191	160
March	72	189	118	155	147	150	144	119	136	190	186	157
April	73	193	148	157	162	159	152	121	132	176	176	159
May	75	191	153	159	184	165	140	103	148	188	175	158
June	74	185	150	164	193	162	146	113	134	202	170	170
July	74	184	145	167	175	165	141	103	139	187	167	168
August	72	169	144	161	160	162	139	101	133	185	175	158
September	72	168	152	157	......	168	140	101	145	190	171	157

[1] Net pool price of 3.7% milk at Utica, N. Y.

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wheat Bran	Standard mid'lings	Wheat mixed feed	Linseed oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	20.36
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	20.37
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	20.12
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	20.43
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	20.67
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	20.35
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	20.82
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	21.81
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	22.22
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	21.36
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	21.09
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	20.80
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	22.42
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	34.10	57.09	30.61	22.56
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	23.40
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	40.59
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59.86	104.88	55.45	42.38
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	44.95
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	46.05
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	92.14	35.70	26.39
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	88.42	37.13	26.03
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	88.60	42.48	30.16
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	70.49	41.64	29.63
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.06	41.81	31.09
1925												
September	43.31	45.53	37.50	36.28	31.57	35.07	36.58	49.40	50.88	73.80	41.18	29.65
October	39.92	42.37	33.67	36.42	30.47	31.97	35.68	47.98	45.53	76.30	38.75	28.27
November	41.59	43.97	36.04	37.22	33.54	34.13	36.94	49.21	44.42	77.55	40.22	29.51
December	38.89	44.63	36.00	38.68	34.50	33.50	37.05	51.61	44.08	80.88	40.57	28.96
1926												
January	39.05	45.30	35.54	39.33	34.94	34.77	37.33	52.32	43.25	81.38	40.96	29.26
February	37.27	42.26	32.70	37.61	32.33	32.33	35.80	49.95	42.45	82.30	38.68	28.24
March	35.61	38.71	30.88	36.82	30.40	30.29	33.06	47.38	41.46	79.47	36.49	26.95
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	....	37.21	21.72
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	....	36.30	20.74
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	....	36.12	20.42
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	77.98	37.53	27.89
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	83.80	37.69	28.74
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	83.80	37.10	28.32

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Standard mid'lings	Wheat mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	175	122	122
1922	107	137	110	106	117	116	119	156	165	168	127	116
1923	138	164	136	121	136	134	134	149	168	168	146	133
1924	155	150	147	134	127	125	129	141	159	131	143	136
1925	164	149	149	127	134	135	139	143	149	133	143	151
1925												
September	133	149	120	113	127	129	137	140	149	140	135	137
October	130	147	114	117	129	124	136	139	142	143	134	132
November	138	155	125	120	140	135	142	144	141	145	141	139
December	135	151	128	124	139	132	140	151	140	151	140	141
1926												
January	142	150	128	127	134	133	138	151	132	157	139	146
February	136	138	118	118	123	123	132	144	132	158	130	142
March	133	132	116	116	116	116	122	142	130	152	126	136
April	129	135	120	116	129	127	131	157	127	......	130	132
May	120	138	112	111	124	116	129	154	127	......	127	128
June	121	140	111	110	125	117	126	154	127	......	127	128
July	132	150	120	111	128	117	128	160	129	149	133	129
August	125	135	119	114	118	119	123	150	120	160	125	129
September	119	128	115	119	118	111	116	142	116	159	122	124

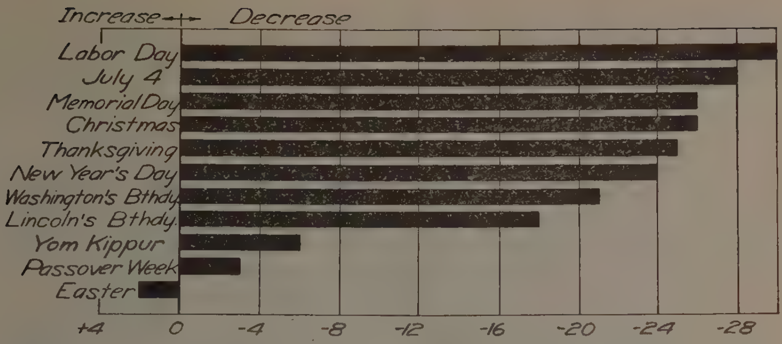

FIG. 2—EFFECT OF HOLIDAYS ON THE RETAIL SALES OF PINTS OF GRADE B MILK IN GREATER NEW YORK

Since many employed people purchase pints of milk to drink with their lunch, any general holiday causes a heavy decline in sales. Easter is always on Sunday and sales are therefore little affected by that holiday

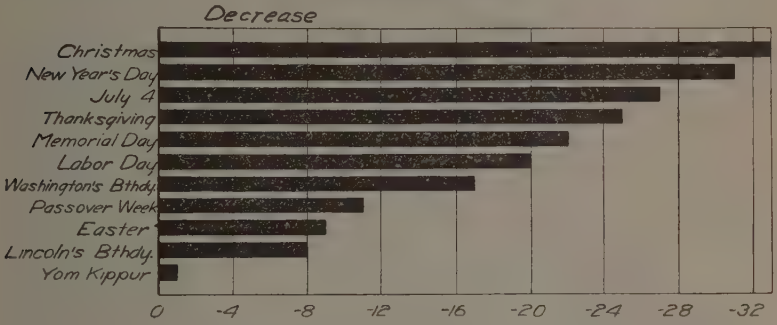

FIG. 3—EFFECT OF HOLIDAYS ON THE WHOLESALE SALES OF GRADE B BULK MILK IN GREATER NEW YORK

The effect of closed stores and decreased patronage of restaurants and lunch rooms on holidays is shown in the sales of this product

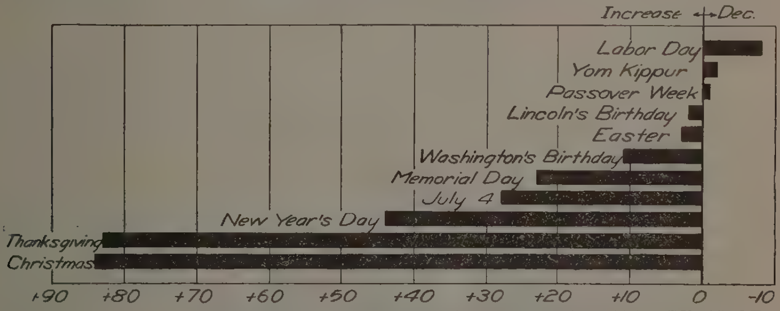

FIG. 4—EFFECT OF HOLIDAYS ON THE RETAIL SALES OF HALF PINTS OF HEAVY CREAM IN GREATER NEW YORK

Thanksgiving and Christmas feasts demand lots of cream. This is especially true in middle-class residential districts

Christmas and Thanksgiving, on the other hand, show increases as would be expected. The decrease during Passover Week lasts for seven days, so that the total loss in sales is greater than the chart indicates. The minor variations are too small to be significant. Quarts of Grade A and Certified milk show similar holiday variations.

Since a much larger proportion of the sales of pints of Grade B milk and bulk milk is for the luncheon trade, most holidays cause a decided drop in the sales of these products. This is shown by Figures 2 and 3. It should be noted that the scale is not the same as in Figure 1. The decrease for bulk milk and pints is more than five times as much as the quart decrease.

The sale of heavy cream (approximately 40 percent fat) shows the greatest variation, and the usual effect of a holiday is a rise in sales. This is particularly true at Thanksgiving and Christmas when the demand is over 80 percent above normal (Figure 4). In middle-class districts, where cream approaches the luxury class, the demand may go up 200 percent on these days.

H. A. Ross

THE AGRICULTURAL SITUATION IN DENMARK

Denmark is now passing through a crisis, a period of "postwar neutrality." It is an aftermath of the great war, principally a money crisis. The present situation is different from the great agrarian crisis which occurred at the close of the last century as a result of newly exploited grain fields in the western hemisphere. Now the prospetive readjustment is a political-economic issue, more complicated, indefinite, and dangerous.

Denmark prospered during the war. At the termination of the war the accumulated profits were invested in goods which were to be sold to the starved belligerents, especially to Russia. This import-speculation and accumulation proved to be a failure as it found prospective purchasers without money or credit, resulting in an unfavorable trade balance to the amount of 1600 million krones in 1919. The situation was still further aggravated by the credit policy of the Danish National Bank which instead of curbing credit, was expanding credit operations, thereby causing still greater inflation. By Otcober, 1920, the Danish Krone had depreciated to nearly 50 percent of its gold parity. Bank failures and bank reorganizations followed.

Not until the new elections for the Danish Rigsdag in the fall of 1924 did the government come to the support of the National bank whereby the Krone was stabiilzed at 65 of its gold value. The additional taxes on income and capital, hand in hand with a vigorous business policy of the National bank, soon took effect. Disposing of exchange credits contracted abroad, reducing note circulation, and restricting credit were the first steps toward a recovery of the krone. In the period from July to December, 1925, the krone recovered to 93 per cent of its par value. This dynamic recovery caused the National bank in February, 1926, to increase its foreign exchange holdings during that month from 64.7 million krones to 73.1 million krones, the object was to check the rise of the krone rate and to dispose of this reserve in case of opposite tendencies. It is safe to say that within another year the krone will have regained its former gold parity.

The rise of the krone from about 65 percent to nearly 100 per cent in the course of one year brought hardship, caused losses, and greatly reduced profits. As a result of the recovery of the krone, prices declined 40-50 percent for all agricultural products, affecting a decrease in income of eight million krones per week for Danish agriculture. In contrast to this price decline, costs of operation and taxes remained practically the same. Numerous farmers who had entered business or improved holdings during the inflation period are now facing an indebtedness and interest payments in gold krones.

The chief criticism as voiced at the Danish Agricultural Congress at Odensee, late last June, is directed against the failure of the Danish Government to adjust public expenditures to the recovered par value of the krone. Denmark is a country of social reforms. It is top-heavy with government activities and an army of office holders. In the period from 1914 to 1925, government expenditures rose from 120 to 400 million krones; salaries of government officials from 85 to 250 million; social burdens (pensions, insurance, unemployment doles, etc.) from 54 to 229 million krones. Local expenditures of counties and communities quadrupled during this period. At the present time the burden of official salaries and social reforms exceed by far the total income of the Danish butter industry, the greatest revenue porducing industry in the country.

The Danish farmer has been very bitter in opposing labor unionism. In Denmark, wages and salaries of labor and officials are regulated by the cost of living. In July, 1925, this index was 219; in January, 1926, 194; and in July, 1926, 184. From January to July, 1926, the cost of living fell 5 percent and food dropped 10 percent.

What the Danish farmer is striving for now is:

A readjustment of government expenditures to the exchange quotation of the krone.

A reduction in the number of public officials and their salaries comparable to the present value of the krone.

A reduction in the operating expenses of the Danish State Railways; a lowering of freight rates and postal rates.

A law against price trusts as well as a law curbing the misused power of labor unions.

Maintenance of free trade and opposition to protective tariffs.

Another problem of immediate concern to the Danish farming interests is the socialistic tendency of land division stimulated and supported by the government. The government is increasing the small, independent holdings among the farmers, "husmaend" farms, of which at present there are 130,000 out of a total 200,000 farm enterprises. Since the war, the Danish government deliberately disposed of nearly all church and State domains inclusive of the former royal Prussian domains which fell to Denmark with the North Slesvig reunion in June, 1920. In the pursuit of the policy to establish "husmaend" holdings, the Danish government even went so far as to make use of its right of eminent domain, expropriating land and money in form of taxation from noble estates. In some cases between 500-1,000 acres of land was expropriated by the government, the Danish supreme court deciding against the nobility-manors.

The person responsible for the husmaend policy is Sophus Berthelsen, the creator of many Danish land settlements. The underlying aim is to have the community profit from the appreciation of land values rather than the individual land owner. In 1922, such a system of taxation was introduced both in the country and city and further increased in 1926. It is the intention at the present time to again increase this tax.

Denmark is experimenting with expensive colonization. The state reserves the privilege of ownership, establishing the "husmaend" as a tenant-owner. He may sell the holding upon government approval, thereby transfering his obligations to his successor. In Jutland alone between 7,000 and 8,000 such holdings have been established since the war.

The husmaend property comprises about 15 to 25 acres, depending upon the productivity of the land. The prospective settler must have at least three to four years of practical farm experience and must have 2000-3000 krones. This is considered to be necessary inventory capital; the money fo rland and buildings is furnished by the government: 21000 krones. Of this amount 4000 krones bears no interest charge; the balance is subject to amortization at 4 percent. A husmaend may purchase additional land but he cannot dispose of any part of the original husmaend property.

The independent Danish farmer looks upon the "husmaend" movement with scepticism. To him it is a dear experiment, sponsored by labor unions, "husmaends," and officials. It is a combination representing an effort toward socialization of private property. The farmer considers it class legislation favoring all those entitled to disability and old age pensions. From the farmer's point of view the "husmaend" occupies an undeserved position of privilege.

The Danish money crisis is at present overshadowing all other problems. The "husmaend" question, its development and final disposition is, however, of potential interest to Danish farmers.

ERWIN GRAUE

SALES OF PUREBRED DAIRY CATTLE[1]

The number of purebred dairy cattle sold at public auction steadily declined from 1923 to 1925. The number sold at private sales increased. The prices received at public auction were not sufficient to lead farmers to sell the usual number of animals at auction. Private sale is less expensive. The prices received at public auction in 1925, compared with prices at private sale were less favorable than in previous years.

TABLE 1.—NUMBER OF PUREBRED HOLSTEIN, JERSEY AND GUERNSEY CATTLE SOLD AT PRIVATE SALE AND AT PUBLIC AUCTION IN THE UNITED STATES*

Year	Private Sale	Public Auction	Total Number
1923	7064	3420	11484
1924	12536	3326	15862
1925	12043	2572	14615

*Prices of Purebred Cattle 1923-24. Crops and Markets, Vol. 2, Sup. 4, p. 127. April, 1925. Vol. 3, Sup. 6, p. 181. June, 1926.

TABLE 2.—AVERAGE PRICE OF PUREBRED HOLSTEIN, JERSEY AND GUERNSEY CATTLE SOLD AT PRIVATE SALE AND PUBLIC AUCTION IN THE UNITED STATES

Year	Private Sale	Public Auction	Ratio
1923	$177	$251	1.4
1924	125	158	1.3
1925	128	157	1.2

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[1] Farm Economics, No. 25, p. 291, June 10, 1925.

G. F. WARREN AND F. A. PEARSON

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FARM ECONOMICS

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NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.
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No. 39 NOVEMBER, 1926

BUSINESS CONDITIONS:—PRE-WAR = 100

Year	Farm Prices New York[1]	Farm Prices United States[1]	Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
1913	97	99	102	96	115	111	...
1914	103	101	100	96	99	81	...
1915	100	101	103	119	71	101	101
1916	116	119	129	152	71	130	114
1917	170	180	180	140	98	124	129
1918	186	206	198	130	121	121	160
1919	206	215	210	160	112	94	185
1920	217	214	230	144	153	109	222
1921	144	119	150	118	135	48	203
1922	134	124	152	146	92	77	197
1923	142	137	157	155	102	112	214
1924	128	140	152	166	81	85	218
1925	147	154	162	221	83	97	223
Jan., 1925	136	154	163	201	83	110	223
February	136	153	164	203	86	111	220
March	136	157	164	200	88	109	224
April	141	152	159	201	90	102	218
May	150	151	158	209	89	91	221
June	157	153	160	214	87	88	220
July	150	156	163	222	80	88	220
August	156	160	163	228	74	88	222
September	148	152	163	236	76	89	223
October	147	151	160	243	78	92	225
November	165	153	161	248	84	97	226
December	159	152	159	250	87	103	229
Jan., 1926	158	150	159	252	99	106	229
February	156	150	158	255	100	98	225
March	158	145	154	239	97	103	229
April	171	146	154	232	96	106	227
May	176	145	155	233	93	105	226
June	176	146	155	242	87	104	228
July	163	143	154	249	81	104	227
August	150	140	152	256	79	102	227
September	148	140	153	254	78	100	231
October	...	134	...	246	81	...	...

[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

The most striking feature in the business situation is the decline of 18 points in the index number of the price of 70 industrial stocks, which reached a peak of 258 on August 9 and declined to 240 on October 19. While business continues active there is some hesitancy and uncertainty concerning the future. There is some question whether the present decline in the stock market is the beginning of a major decline, or a minor one.

The general price level declined for eleven months from an index of 163 (1910-14 = 100) in September 1925, to an index of 153 in September 1926.

Money continues to be very cheap and there is apparently no prospect of a material change in the near future.

Farm Prices in the United States

The salient feature in the present agricultural situation is the decline of 6 points in the index number of farm prices during October. The general level of farm prices declined from an index of 160 in August 1925 to 134 in October. This index number is 26 points below the peak of 1925. It has been 28 months since the general level of farm prices in the United States has been as low as at the present time.

The most striking change in the farm prices of individual commodities, is the decline in the price of cotton. The index number of the price of cotton declined from 138 in September to below prewar (97), in October. It is necessary to go back five years to find an index number as low as now prevails. During the past 5 years spectacular changes have occurred in the price of cotton. During 1921, it was 25 per cent below the prewar price (index number, 75). The price of cotton rose gradually during 1921-1923, until it was more than two and one-half times prewar (index number, 264). Since that time, the farm price of cotton has declined. The index numbers rose 189 points in 32 months and declined 167 points in 33 months.

During the month of October, the index number of the prices of 9 farm products rose; 3 were stationary and 11 fell. Aside from the price of cotton, striking changes occurred in the prices of potatoes, oats, sweet potatoes and apples. The index of the farm price of potatoes rose 21 points and oats, 9 points. Sweet potatoes fell 35 points and apples, 9 points.

Farm Prices in New York State

The index number of farm prices in New York State for September was 148, or 2 points below the level of August and 28 points below the level of last May. The level of farm prices in New York State is a little above that of the United States. The prices of lambs, potatoes, wool, milk cows, milk, chickens and eggs are above the level of most farm products in New York State. The prices of two important farm products, apples and hay, are below prewar. In fact, the prices of apples and hay in the surplus districts of the state are lower than the figures indicate, for the reason that in districts where there is a shortage, prices must be sufficient to pay for bringing them in at the present high handling charges. Prices in such districts raise the state average. The price of potatoes is good for the man who has any. In much of New York State, wet weather has prevented digging.

Milk Prices

For several years, the price of milk in the fall and early winter has been lower when compared with summer prices than it was before the war. Summer milk has been at a premium and winter milk has been at a discount. For example, the average price of milk for September, October and November for the last five years was 42 per cent above prewar prices, whereas the price for May, June and July averaged 61 per cent above prewar. This has tended to check the movement into winter dairying. A shortage of fall and early winter milk is therefore developing. Since it takes a long time to shift the season of production, it is probable the shortage will reoccur for a few years and prices for the fall and early winter will have to be higher, relative to spring and summer prices, than has been the case for the past few years.

Feed

The most striking change in the price of feed has been in the prices of cottonseed meal, which was only 10 per cent above prewar in October. This effected the prices for other high protein feeds.

At October wholesale prices, a dairy ration delivered at Utica, New York, would cost 26 per cent more than the five year prewar average for October. A poultry ration would cost 27 per cent more. Farmers should not make plans for the future based on the expectation that such low prices will continue in future years.

The producers of milk and eggs are in better position than other important groups of New York State farmers. The prices of eggs and milk are low when compared with wages, taxes, or prices of most commodities that the farmer buys. But feed is so cheap as to make present price of milk and eggs fairly satisfactory. This may result in a tendency to raise too many calves and chickens. The period of distress in the dairy industry, when feed was high and milk was cheap, resulted in the raising of so few calves that there is now a shortage of dairy cows. The cheap feed with better prices for milk may result in the raising of too many cows.

G. F. Warren and F. A. Pearson.

CORRECTIONS

The United States Bureau of Labor Statistics has calculated index numbers of wholesale prices of all commodities, by months, since 1890. The index numbers given on page 537, therefore, have a few slight changes.

An error was made by the writer in calculating the cost of the poultry ration. The error is corrected in this number.

F. A. Pearson.

RELATION OF RAINFALL TO THE PRODUCTION AND PRICE OF OATS

The relation of corn belt rainfall to the production and price of corn was given in Farm Economics number 35. The May, June and July rainfall at the same nine stations as used for the corn study for the 36 years from 1890 to 1925 inclusive, was considered the normal rainfall for the purposes of this study. It was found to range from 60 per cent of normal in 1911 to 168 per cent in 1915.

Rainfall and Yield per Acre of Oats in the United States

The average yield per acre of oats in the United States for the 36 year period, 1890 to 1925 inclusive, was 29.9 bushels per acre. The yield has steadily increased from about 26 bushels in 1890 to 33 bushels per acre in recent years. A straight line trend was fitted to the yield per acre data and the yield in each year expressed in percentage of the trend.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
October	83.0	37.2	136.4	57.6	87.6	228.9	3.69	21.5	12.47	181	125.6	169.4
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	3.26	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	3.49	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	3.23	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	3.28	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	3.31	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	......	126.4	110.6

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
October	118	95	156	96	120	137	163	178	107	189	182	199
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January	120	104	181	97	121	139	145	140	113	......	352	190
February	115	99	174	88	114	127	157	145	108	......	344	195
March	110	97	164	87	116	117	148	133	108	......	337	196
April	106	97	160	85	114	120	150	134	106	......	397	194
May	104	96	158	85	116	117	146	127	107	......	352	197
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165
October	106	100	139	90	119	118	127	97	113	......	183	130

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
October	120	76	20.0	37.7	44.2	60.17	6.31	9.52	7.31	12.04	37.2	11.16
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.7	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
October	174	55	169	169	171	121	119	135	170	219	218	151
November	177	55	168	184	173	121	118	132	176	222	220	153
December	178	54	181	160	163	121	118	133	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	156
September	125	56	180	163	166	134	121	143	163	201	188	159
October	116	56	176	165	162	133	121	146	161	206	185	163

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
October	99	48	145	74	91	3.80	13.60	130	100	123
November	96	48	149	76	87	4.60	13.50	215	110	116
December	95	50	160	75	87	4.50	14.30	218	120	115
1926										
January	94	51	169	77	88	3.66	14.30	244	136	117
February	95	50	173	76	87	3.78	13.90	245	128	127
March	90	50	163	77	85	3.60	14.20	245	129	126
April	90	51	158	74	85	3.54	14.10	300	130	133
May	89	53	158	76	89	3.60	14.50	290	124	133
June	88	50	157	77	94	3.60	15.00	225	135	133
July	88	52	149	72	97	3.48	15.30	170	140	129
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
October	125	102	149	99	123	156	89	188	164	70
November	125	104	154	101	121	191	91	384	169	66
December	127	106	163	100	121	185	94	341	162	65
1926										
January	131	113	171	103	124	156	94	381	168	68
February	134	106	173	101	121	162	91	355	147	73
March	127	106	163	100	120	156	91	360	143	72
April	127	104	158	96	116	155	91	435	126	73
May	122	106	158	96	119	153	92	403	110	75
June	117	98	154	96	122	154	92	321	138	74
July	116	102	148	92	115	144	96	246	159	74
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
October	24.7	50	76.5	51	2.56	80.40	12.30	5.90	6.20	12.40	42	12.00
November	23.7	64	77.8	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	23.5	61	57.6	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	25.6	46	46.2	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	26.9	38	40.5	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	26.8	33	36.8	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	28.5	31	35.3	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	28.4	29	35.8	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	28.1	30	36.9	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	28.0	32	40.0	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48		95.00	12.70	5.70	5.60	12.10	36	12.20

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
October	159	167	170	165	143	144	139	103	153	207	200	152
November	163	183	142	166	141	147	136	106	168	206	205	159
December	170	149	117	156	140	145	139	108	147	209	210	163
1926												
January	188	121	116	150	139	154	143	112	141	199	195	157
February	192	119	119	148	141	155	146	121	154	200	191	160
March	189	118	142	155	147	150	144	119	136	190	186	157
April	193	148	157	157	162	159	152	121	132	176	176	159
May	191	153	157	159	184	165	140	103	148	188	175	158
June	185	150	151	164	193	162	146	113	134	202	170	170
July	184	145	147	167	175	165	141	103	139	187	167	168
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	......	170	143	100	138	202	171	154

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	……..	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1925												
October	39.92	42.37	33.67	36.42	30.47	31.97	35.68	47.98	45.53	76.80	38.75	43.02
November	41.59	43.97	36.04	37.22	33.54	34.13	36.94	49.21	44.42	76.80	40.22	44.50
December	38.89	44.63	36.00	38.68	34.50	33.50	37.05	51.61	44.08	71.80	40.57	44.05
1926												
January	39.05	45.30	35.54	39.33	34.94	34.77	37.33	52.32	43.25	68.80	40.96	44.80
February	37.27	42.26	32.70	37.61	32.33	32.33	35.80	49.95	42.45	70.80	38.68	44.15
March	35.61	38.71	30.88	36.82	30.40	30.29	33.06	47.38	41.46	70.80	36.49	42.36
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	67.30	37.21	42.12
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	63.80	36.30	40.99
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	63.80	36.12	40.55
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	73.80	37.53	42.58
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Stand-ard midl'gs	Wheat mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	……	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1925												
October	130	147	114	117	129	124	136	139	142	144	134	133
November	138	155	125	120	140	135	142	144	141	143	141	139
December	135	151	128	124	139	132	140	151	140	134	140	139
1926												
January	142	150	128	127	134	133	138	151	132	132	139	143
February	136	138	118	118	123	123	132	144	132	136	130	139
March	133	132	116	116	116	116	122	142	130	135	126	134
April	129	135	120	116	129	127	131	157	127	128	130	133
May	120	138	112	111	124	116	129	154	127	122	127	128
June	121	140	111	110	125	117	126	154	127	122	127	127
July	132	150	120	111	128	117	128	160	129	141	133	132
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127

In the years of most effective rainfall the yield of oats in the United States averaged 22 per cent more than in the dry years and 10 per cent more than in the wettest years.

In very dry years, the temperature is also above normal, and oats do not produce enough vegetative and kernel growth for maximum yield.

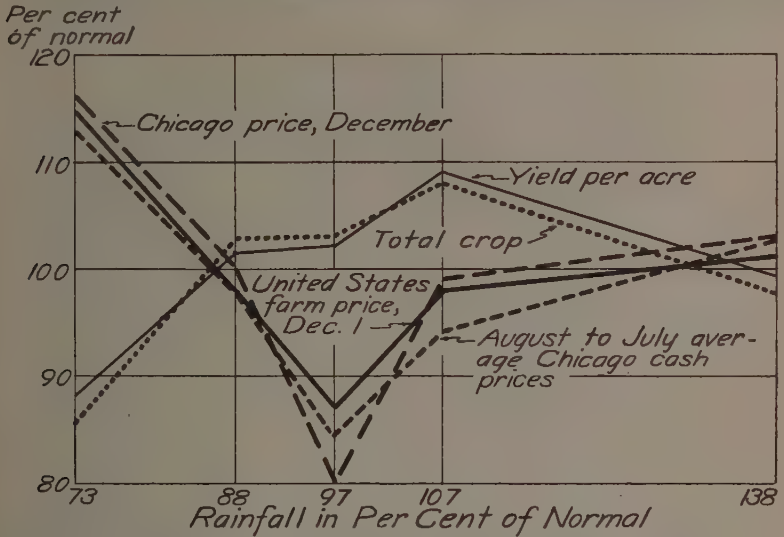

FIGURE 1—RELATION OF RAINFALL TO THE PRODUCTION, YIELD AND PRICE OF OATS IN THE UNITED STATES

The purchasing power of the price of oats moves inversely with the production of oats which bears a close relation to rainfall.

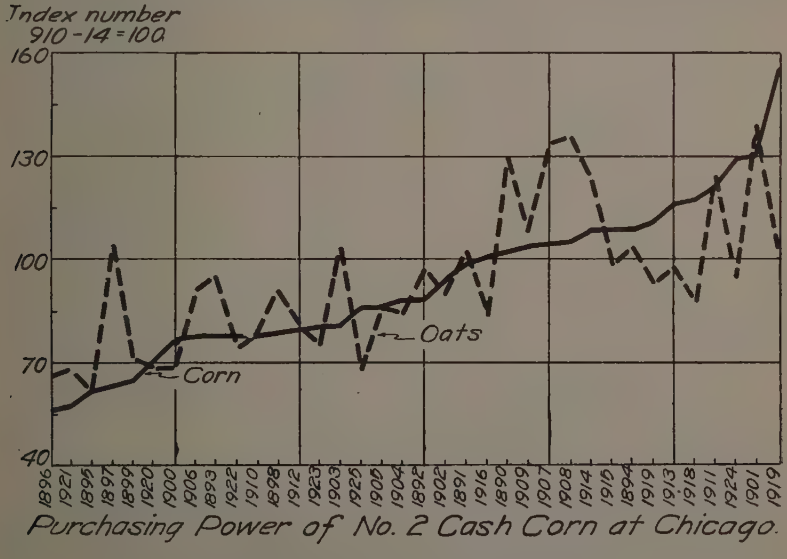

FIGURE 2.—RELATION BETWEEN THE PURCHASING POWER OF THE DECEMBER CASH PRICE OF CORN AND OATS AT CHICAGO

Usually the price of corn and oats is high or low in the same years.

Hot, dry weather lowers the yield. In very wet years some poor stands result. Rust and smut cause some reduction in yield. Relatively too much vegetative growth results in a smaller number of kernels and incompletely filled kernels. Lodging makes light weight berries, and may result in shattering at harvest time. All of these factors lower the yield in wet years. Apparently the optimum rainfall for oat yields is from slightly less than, to about ten per cent above normal rainfall.

Rainfall, United States Oat Crop and the Purchasing Power of the Price of Oats

The 36 years from 1890 to 1925 inclusive have been arranged in five groups in order of rainfall. The relations are shown in Table 1 and in Figure 1. In general the total United States oat crop increases with the rainfall until it is about ten per cent above normal. In the very wet years the total crop is less.

The purchasing power of the price of oats declines from about 15 per cent above normal in very dry years to about 15 per cent below normal in the years with slightly less than normal rain. In the fourteen wettest years, the purchasing power is about normal. Relatively, therefore, oats are very high in price in dry years, very low in years with slightly less than normal rain, and about normal in very wet years.

TABLE 1.—RELATION OF RAINFALL TO SIZE OF CROP, YIELD PER ACRE, AND PURCHASING POWER OF OATS—36 YEARS 1890-1925 INCLUSIVE

	Rain per cent of normal	United States crop per cent of normal	United States yield per acre		Purchasing power		
			Per cent of normal	Per cent first group as 100	United States Dec. 1 farm price, per cent of normal	Cash oats at Chicago December per cent of normal	Cash oats] at Chicago August to July average, per cent of normal
Seven driest years	73	86	89	100	115	116	113
Eight next driest years	88	103	101	114	98	100	98
Seven next driest years	97	103	102	115	87	80	85
Seven wet years	107	108	109	122	98	99	94
Seven wettest years	138	98	99	111	101	103	102

The relation of the size of crop and the price of oats for 36 years was arranged in five groups from the smallest to the largest crop (table 2).

TABLE 2.—RELATION OF SIZE OF CROP TO THE PURCHASING POWER OF THE DECEMBER PRICE OF OATS—36 YEARS 1890-1925 INCLUSIVE

Group	United States crop, per cent of normal	Purchasing power	
	Average	United States farm price Dec. 1, per cent of normal	Chicago cash price, December per cent of normal
Seven smallest crops	82	109	112
Eight next smallest crops	91	110	108
Seven next smallest crops	101	94	97
Seven large crops	110	91	85
Seven largest crops	115	94	96

Relation of Rainfall to the Correlation of Oat Prices with Corn Prices

Figure 2 shows the index numbers of the purchasing power of corn and oats in December at Chicago, arranged from the years when corn had the lowest purchasing power to the years when it was the highest. A general correlation between oat and corn prices is evident. When corn is very low in price oats are not correspondingly low, and when corn is very high oats are not correspondingly high. In some years there is a large difference in price.

Whether the price of oats rises or falls more in sympathy with corn prices, than with the size of the oat crop is questionable. Generally high priced oats and high priced corn come in the same years because the years that are dry for oats are also dry for corn and the years wet for oats are usually wet for corn. The precipitation in two of the months—June and July, affect the production of both corn and oats.

In the ten years that were driest for corn there were seven that were also dry for oats In these seven years the purchasing power of the December 1 farm price of corn averaged 122 per cent of normal and for oats 111.

In the ten years that were wettest for corn there were seven years that were very wet for oats. In these seven years, the purchasing power of the December 1 farm price for corn averaged 101 per cent of normal, and for oats 102. The December cash price of corn at Chicago was 107 per cent of normal and for oats, 106.

E. G. Misner

SEASONAL VARIATION IN THE PRICE OF BUTTER ON THE NEW YORK MARKET

The wholesale price of ninety-two score fresh butter on the New York market varies with the season as shown by Figure 1. For example, the average price for the first week in July is 88 per cent of the year's average, as compared with 112 per cent for the last week of December. Any one year, of course, may deviate from the usual seasonal trend. Figure 2 shows that the deviation is ordinarily greatest about the first week in February and the third week in April. June and July butter prices, on the other hand, follow the average seasonal trend most closely.

The great deviation in April is due to the normal seasonal decline which takes place as the spring production increases. The exact time of this decline varies in different years because of the amount of butter in storage and the prospects of heavy production as the pasture season approaches. The wide deviation in late January and early February, however, is due to the so-called "January break" in prices. It will be noted from Figure 1 that the decline in price at this time is followed by an upturn, although the production of butter is increasing.

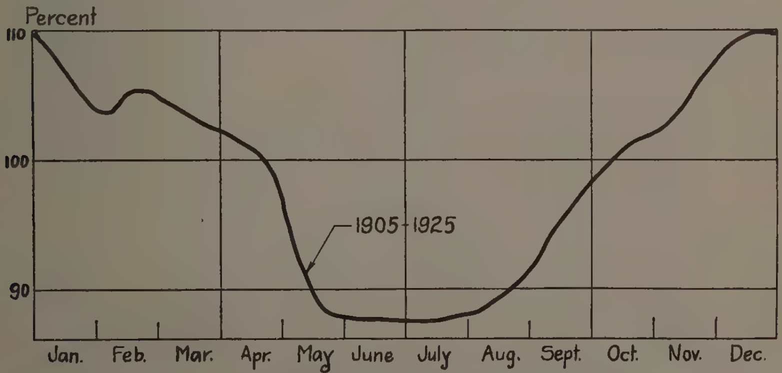

FIGURE 1.—SEASONAL VARIATION IN THE PRICE OF 92-SCORE BUTTER ON THE NEW YORK MARKET

In addition to the low summer prices, there is an unwarranted decline and recovery in January and February

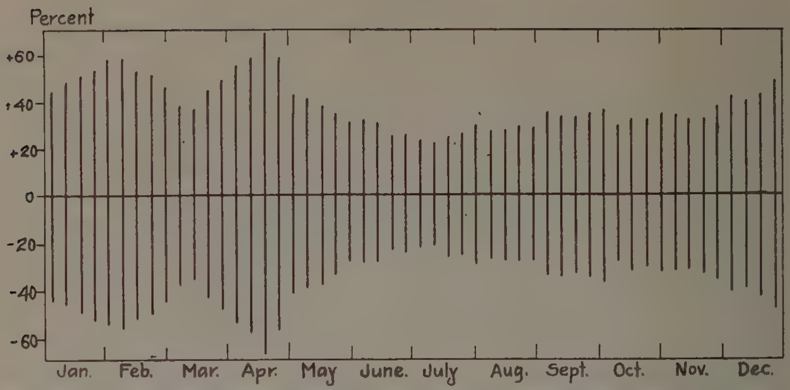

FIGURE 2.—AVERAGE PERCENTAGE DEVIATION OF NEW YORK WEEKLY BUTTER PRICES FROM THE 21-YEAR SEASONAL TREND

Prices in any one year are most likely to deviate widely from the usual seasonal curve in January, February and April

The causes of this "break" seem to be more psychological than economic. Storage stocks are frequently high. The period of heavy production is drawing near. Operators recall other "January breaks." With a nervous market, it requires but a slight accumulation of stocks to cause both buyers and sellers to become panicky, and the price falls much lower than is justified by supply and demand conditions.

The magnitude of the price decline at this season varied from nothing to 29 per cent during the 21 years studied (1905 to 1925). It was less than 5 per cent during 5 of the years; from 6 to 10 per cent during 4 years; 11 to 15 per cent, 5 years; 16 to 20 per cent, 3 years; 21 to 25 per cent, 3 years; and over 25 per cent, 1 year. The average decline was 5.6 cents or 12.7 per cent of the average weekly price at the beginning of the break. The recovery averaged 4.7 cents, or 12.7 per cent of the average weekly price at the low point. The decline lasted 3.1 weeks, on the average, and the recovery 3.5 weeks, although it is difficult in some years to distinguish be-

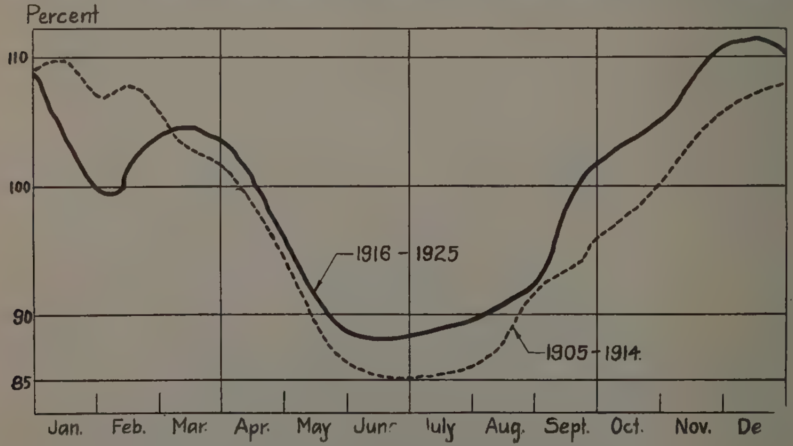

FIGURE 3.—COMPARISON OF THE SEASONAL VARIATION OF NEW YORK BUTTER PRICES DURING TWO TEN-YEAR PERIODS

The magnitude of the "January break" was greatest during the second decade tween the normal seasonal decline and the so-called "break". The low point was ordinarily reached in the latter part of January or the first part of February.

It might be assumed that the magnitude of this unwarranted fluctuation would have decreased during the last few years because of the availability of storage statistics and improvements in the market news service. Figure 3, however, shows that the reverse is true. The decline was much greater during the second period, even when expressed in percentages of the higher prices which prevailed in those years. Some method of eliminating these "breaks" and the accompanying losses of dairymen and creamerymen is needed.

H. A. Ross.

CHANGING METHODS OF MILK TRANSPORTATION[1]

At a recent hearing before the Interstate Commerce Commission, the New England Railroads which have been attempting to obtain a twenty per cent increase in milk and cream rates, offered an exhibit which showed that Central Territory milk and cream rates are considerably higher than New England rates. To combat this evidence, a survey covering the transportation of milk in the Chicago and St. Louis districts, was made at the request of the Producers' Committee. Some of the results are interesting, both from the standpoint of recent advances in the methods of handling milk and from the standpoint of the effect of the high rates on milk transportation.

During May, 1926, the 246 milk dealers in Chicago sold daily, 358, 923 gallons of milk. Of this amount, 44.2 per cent came by tank car; 19.3 per cent by can truck; and 9.2 per cent by tank truck. Only 27.3 per cent came by rail in bottles and cans which take the high rates quoted. Table I shows the different methods used by dealers of various sizes. No tank cars were used in St. Louis at that time but the four largest dealers, handling over 80 per cent of the total supply, received 76.6 per cent of their milk by motor truck and only 23.4 per cent by rail. In both cities, the trend is away from the high cost rail shipments of cans and bottles.

The use of tank cars in Chicago was stimulated by the requirement of the T. B. test for all herds supplying the city with milk after April 1, 1926. Many of the producers in the inner territory, where much of the milk was trucked to the city, failed to have their herds tested, and dealers went far into Wisconsin to get an adequate supply. The long haul emphasized the difference in cost between tank car and can shipments, and many new cars were put into use. Table 2 shows the points shipping milk in tank cars on

TABLE 1.—METHODS OF TRANSPORTING MILK USED BY CHICAGO DEALERS GROUPED ACCORDING TO THE AMOUNT OF MILK SOLD

May, 1926

Group	Number of dealers	Gallons of milk sold daily per dealer	Total gallons sold daily	Percentage of total supply				
				Tank car	Can truck	Tank truck	Rail, cans & cases	Total
				percent	percent	percent	percent	percent
1	124	250 or less	16,308	——	73.6	——	26.4	100.0
2	75	251-1500	43,746	17.3	52.9	11.2	18.6	100.0
2	26	1501-3000	52,855	22.7	31.9	10.5	34.9	100.0
4	21	3001 & over	246,014	56.5	7.0	9.2	27.3	100.0
All	246	——	358,923	44.2	19.3	9.2	27.3	100.0

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[1] Tables from I. and S. Docket 2635 Milk and Cream Between New England Points. New England Milk Rate Case. Witness, Ross. Exhibits 116, 122 and 127.

TABLE 2.—POINTS SHIPPING MILK IN TANK CARS TO CHICAGO

June 1, 1926

Miles by rail	Country Plant	Rate per 100 lbs.	
		In tank cars	In 10-gallon cans
		cents	cents
51.3	Woodstock, Ill.	21	33.7
53.7	Spring Grove, Ill.	21	34.3
77.3	Genoa, Jc., Wis.	21	34.3
81.3	Bassets, Wis.	24	34.3
83.3	Hebron, Ill.	24	34.3
85.4	Monterey, Ind.	24	39.0
86.2	Mukwonago, Wis.	24	37.8
87.2	Herbert, Ill.	24	34.3
88.8	Avalon, Wis.	24	36.6
97.0	Francesville, Ind.	24	39.0
97.0	Francesville, Ind.	24	39.0
104.7	Janesville, Wis.	24	40.1
111.5	Orfordville, Wis.	27	45.3
111.8	Jackson, Wis.	27	45.3
113.0	Freeport, Ill.	27	45.3
117.3	Slinger, Wis.	27	45.3
120.0	Pearl City, Ill.	27	45.3
120.0	Pearl City, Ill.	27	45.3
126.5	Kewaskum, Wis.	28	45.3
127.2	Servia, Ind.	28	45.3
130.2	Adell, Wis.	28	45.3
130.3	Watertown, Wis.	28	45.3
130.3	Watertown, Wis.	28	45.3
130.3	Watertown, Wis.	28	45.3
149.8	Deerfield, Wis.	29	45.3
179.7	Waukau, Wis.	32	50.0
204.3	Nichols, Wis.	34	52.9
241.1	Clintonville, Wis.	34	52.9
242.7	Oconto, Wis.	35	54.7
268.0	Wittenberg, Wis.	35	55.8
281.0	Marshfield, Wis.	37	58.7
289.7	Spencer, Wis.	38	61.6
305.9	Marathon City, Wis.	37	58.7
310.4	Withee, Wis.	39	50.0*
335.8	Merrill, Wis.	40	80.2*
337.3	Bloomer, Wis.	40	80.2*
337.3	Bloomer, Wis.	40	80.2*
361.0	Mason City, Ia.	41	83.7*
165.9	Average	29.5	48.6

*Mileage rate.

TABLE 3.—COST OF TRANSPORTING MILK TO CHICAGO BY MOTOR TRUCK AND BY RAIL

June 1, 1926

Truck deliveries direct to city bottling plant. Rail deliveries to milk platform

Miles by rail	Station	Rate per 8-gallon can		Truck rate in per cent of rail rate
		By rail	By truck	
		cents	cents	percent
17.4	Bensenville, Ill.	20.5	15	73.2
19.3	Wooddale, Ill.	20.5	20.5	100.0
20.0	Mt. Prospect, Ill.	21	21	100.0
21.2	Itasca, Ill.	20.5	20.5	100.0
22.1	Homewood, Ill.	23	25	108.7
23.5	Tinley Park, Ill.	19	25	131.6
23.5	Tinley Park, Ill.	19	25	131.6
25.4	Lemont, Ill.	25	25	100.0
25.4	Lemont, Ill.	25	25	100.0
25.4	Lemont, Ill.	25	25	100.0
29.7	Mokena, Ill.	19	23	121.1
29.7	Mokena, Ill.	19	25	131.6
31.0	Eola, Ill.	23	15	65.2
33.0	Lockport, Ill.	26.5	25	94.3
37.4	Joliet, Ill.	27	25	92.6
37.6	Beecher, Ill.	27	33	122.2
39.5	Cedar Lake, Ind.	27	27.5	101.9
41.0	Sollitt, Ill.	28	35	125.0
44.8	Lowell, Ind.	28	18	64.3
45.3	Manteno, Ill.	24	24	100.0
45.9	Elwood, Ill.	29	25	86.2
51.7	Burlington, Ill.	21.5	30	139.5
52.0	Plano, Ill.	27	28	103.7
52.1	Hebron, Ind.	30.5	30	98.4
108.7	Warsaw, Ind.	38	50	131.6
36.1	Average	24.5	25.6	104.9

June 1, 1926 and compares the rates for the two methods. The longest haul was from Mason City, Iowa (361 miles) and the rate of 41 cents per 100 pounds is approximately the same as the 140 to 150 mile zone rate in New York for carload shipments in ten-gallon cans.

Approximately 140 of these tank cars were in use about Chicago or held in reserve at the time the survey was made. The number of cars required varies from two to four for each shipping point, depending on the distance and the number of plants owned by a dealer. Each car contains two glass-lined tanks holding 3,000 gallons each, or a total of about 51,000 pounds. In 1924, the average amount of milk received at shipping stations in New York ranged from about 11,000 pounds per day in December, to approximately 20,000 pounds per day in June, with an average of 14,000 for the entire year. When it is remembered that all of the milk going into Chicago is from T. B. tested herds, the intensity of dairying in these Wisconsin regions which were opened up within a month's time, becomes apparent. Some of these points furnish two and even three tank cars of milk daily. It is chiefly lack of volume that is retarding the use of tank cars in New York.

The inner districts about Chicago and St. Louis which have hard roads, are meeting the high cost of rail shipments by increased use of motor trucks. For distances up to about 75 miles, use of the tank truck appears to be the most economical method of transporting milk from country receiving stations to city bottling plants. One unit, consisting of a tractor and two trailers, hauls 3,900 gallons of milk daily to St. Louis at a cost of approximately half the rail rate. The round trip of 130 miles takes about eight and one-half hours.

Large quantities of milk are trucked directly from the farms to the city bottling plants in Chicago and St. Louis. In both these districts, the eight-gallon can is commonly used on farms. Rates for some of the points from which milk is trucked to Chicago are given in Table 3. The truck rates average slightly higher than the rail rates but the latter do not show the entire cost of rail shipments. To the rail rate must be added the cost of trucking the milk from the farm to the railroad and from the city platform to the plant.

The maximum haul for can trucks in the Chicago district was 120 miles one way, and slightly over 100 miles in the St. Louis district. The majority of the hauls, however, are under 50 miles.

Because of the great distance between New York City and its source of supply, little milk can be trucked to the city bottling plants. However, with the network of excellent roads in the dairy districts, it appears feasible to haul milk in tank trucks from small feeder stations to a central shipping station where it can be sent to the city in tank cars. Wherever this is possible the cost of getting the milk to the city bottling plant should be materially reduced.

H. A. Ross.

COSTS AND MARGINS IN THE WHOLESALE MARKETING OF FRUITS AND VEGETABLES AT PITTSBURGH, PA., 1924

These data are used from studies carried on by the department of Agricultural Economics and Farm Management, New York State College of Agriculture, in cooperation with the Bureau of Agricultural Economics, United States Department of Agriculture.

In an effort to learn the facts concerning the costs of distributing fruits and vegetables in terminal markets, and with the hope of obtaining criteria which might be used in reducing these costs, the Department of

Agricultural Economics and Farm Management at Cornell University has made a study of the wholesale and jobbing produce business in New York City, Newark, N. J., and Pittsburgh, Pa. A brief analysis of the accounts of fifteen wholesale produce firms in Pittsburgh, Pa., for the year 1924 is presented herewith.

The duties of these wholesalers are to act as receivers for country produce arriving in carlot and less than carload lots, and to carry on all the operations incidental to breaking up carlots into such units as may be desired by jobbers, grocers, restaurants, fruit stands, and the like. They must also arrange for storage, cartage, etc. as well as necessary accounting services. This study does not include retail costs.

Gross Costs and Margins

The fifteen firms studied had gross sales of fruits and vegetables for the year 1924 amounting to $10,280,029.07. Out of this total, $9,374,161.28 or 91.2 per cent was returned to country shippers or growers or was paid out in transportation charges. This left $905,867.79 or 8.8 per cent of gross sales to cover wholesale costs of distribution in the city and any profits or losses. The actual costs of distribution, not including salaries of principals nor net profits, were $706,349.80, or 6.9 per cent of gross sales. The remainder, $199,517.99 or 1.9 per cent of gross sales, covered the salaries of 30 principals or owners and any net profits or losses. Table I.

TABLE 1.—DATA CONCERNING SALES AND COSTS OF DISTRIBUTING FRUITS AND VEGETABLES BY 15 PITTSBURGH PRODUCE FIRMS, 1924

Item	Total all firms	Average per firm	Per cent of gross sales
Gross sales of fruits and vegetables	$10,280,029.07	$685,335.27	100.0
Cost of goods sold (price paid by wholesaler to grower or country shipper)	9,374,161.28	624,944.08	91.2
Gross costs of distribution (including salaries of principals and net profits or losses)	905,867.79	60,391.19	8.8
Actual costs of distribution (not including salaries of principals or profits)	706,349.80	47,089.99	6.9
Salaries and profits of 30 principals	199,517.99	13,301.20	1.9

It appears that for each dollar's worth of fruits and vegetables distributed, 91.2 cents was returned to the grower or country shipper (including freight), and 6.9 cents were absorbed by costs of distributing in Pittsburgh, leaving a margin of 1.9 cents to cover managers' salaries and net profits.

Comparison with Other Industries

It appears that the margin taken by these middlemen for their services in handling perishable fruits and vegetables compares very favorably with wholesale margins in other industries. The Harvard School of Business Research, in studies of selected industries, found gross margins ranging from 11.3 to 24.8 per cent and net profits from 0.7 to 1.3 per cent of gross sales. A comparison of the margins taken in these industries with those taken by these fifteen produce firms is given in Table 2.

It will be noted that the margins, both gross and net, taken in handling perishable fruits and vegetables are considerably lower than those in the other industries cited. An explanation of this fact may possibly be found in the extreme degree of competition which exists in the fruit and vegetable business.

Detailed Costs of Marketing

The statement that costs are relatively high or low does not explain costs, however, and it may be of interest to analyze the actual costs of distribution in detail. The data covering itemized costs of distribution for the fifteen firms are given in Table 3.

TABLE 2.—PER CENT OF GROSS MARGINS AND NET PROFITS IN VARIOUS LINES OF WHOLESALE BUSINESS

Type of business	Number of firms	Year	Gross margin taken (per cent)	Net profit taken (percent)
Wholesale groceries*	501	1923	11.3	0.7
Wholesale dry goods**	71	1923	17.6	1.0
Wholesale automotive equipment†	151	1924	24.8	1.3
Wholesale drugs††	129	1924	17.1	1.3
Wholesale fruits & vegetables‡	15	1924	8.8	0.4
Average			15.9	0.94

*Operating Expenses in the Wholesale Grocery Business in 1923. Bureau of Business Research, Harvard University, Bulletin No. 40, page 11, May, 1924.

**Operating Expenses in the Wholesale Dry Goods Business in the South in 1923. Bureau of Business Research, Harvard University, Bulletin 45, page 13, August, 1924.

†Operating Expenses in the Wholesale Automotive Equipment Business in 1924. Bureau of Business Research, Harvard University, Bulletin 51, page 19, June, 1925.

††Operating Expenses in the Wholesale Drug Business in 1924. Bureau of Business Research, Harvard University, Bulletin No. 50, page 22, June, 1925.

‡Study of Pittsburgh produce trade, 1924.

TABLE 3.—ITEMS OF COST INCURRED BY 15 WHOLESALE PRODUCE FIRMS IN DISTRIBUTING $10,280,029.07 WORTH OF FRUITS AND VEGETABLES AT PITTSBURGH, PA. 1924

Item of cost	Total cost	Average cost per firm	Per cent of total costs
Wages of employees	$384,395.91	$25,626.39	42.4
Rent & storage	64,630.32	4,308.69	7.1
Cartage & auto expense	39,988.79	2,665.92	4.4
Bad debts	39,856.72	2,657.11	4.4
Telephone & telegraph	37,430.42	2,495.36	4.1
Miscellaneous expenses	26,870.36	1,791.36	3.0
Brokerage & commission	24,612.97	1,640.86	2.7
Interest	20,446.20	1,363.08	2.3
Traveling expenses	17,360.16	1,157.34	1.9
Advertising	16,475.24	1,098.35	1.8
Office supplies, stencils, etc	15,468.83	1,031.26	1.7
Taxes & insurance	6,928.69	461.91	.8
Barrels, bags, crates, etc	6,197.19	413.15	.7
Repairs & depreciation	3,136.05	209.07	.3
Heat & light	2,551.95	170.12	.3
Sub-total, excluding managers' salaries & profits	706,349.80	47,089.98	77.9
Managers' or principal's salaries	154,760.60	10,317.37	17.1
Net profit	44,757.39	2,983.83	5.0
Grand total costs of distribution	$905,867.79	$60,391.18	100.0

Labor an Important Item of Cost

Wages paid to employees stand out clearly as one of the most important causes of high costs of distribution. The labor cost of handling ten million dollars worth of produce amounted to $384,396 or 42.4 per cent of all costs of distribution. When salaries of managers are included, it will be seen that labor and management accounted for 59.5 per cent of all costs of distribution. It should also be borne in mind that items such as rent, telephone and telegraph, cartage, etc., are to a considerable degree composed of labor.

Despite the fact that a great deal of the labor is done during the night or extremely early hours of the morning, it should not be assumed that abnormally high wages are paid employees in the produce business. It is customary in many industries to pay higher wages to night workers than day workers, and the produce business is no exception to this rule.[1]

That labor is so important an item is readily understood when it is considered that the index number for factory wages in New York State in

[1] Average weekly wages paid by a prominent produce firm in Pittsburgh during 1924 were as follows: yard laborers, $33.00; bookkeepers, $48.00; traveling men, $51.00 plus expenses; salesmen, $92.00; and managers, $200.00.

January, 1925, was 223 as compared with 100 in prewar days.[2] If wage earners in the cities insist on high wages, they must expect that their fellow wage earners who serve them with food and drink will also insist on high wages, and so increase the cost of marketing.

Other Important Cost Items

The rental of warehouses for storage, and of stores and offices for doing business amounted to over $64,000 or 7.1 per cent of the total costs of distribution. The high costs of construction and maintenance of buildings and high land values in large cities are directly responsible for a goodly share of the cost of marketing. Much of the cost of building construction is labor.

Another item of considerable importance is that of cartage,—the trucking of the produce from the railroad car door to the store of the jobber, grocer, restaurant or hotel. Here, likewise, labor enters into the situation in that wages of truck drivers are a very large share of the cost of trucking. Another reason for high trucking costs, not readily apparent in the bald statement of dollar costs, is found in the long delays caused by traffic congestion in city streets, which must find expression in a higher cost of distribution for fruits and vegetables.[3] It is likely that the tendency of population to center more and more in large cities will increase rather than diminish this item of cost.

Communication Costs

Reference to Table 3 will show that telephone and telegraph tolls were an important item of cost in handling perishable fruits and vegetables. Over $37,000 was spent on telephone calls and telegrams in selling ten million dollars worth of produce. Perishable produce must be handled promptly or heavy losses may result. There can be little doubt that liberal use of the telephone and telegraph systems is amply justified, but the fact remains that such use is an important item of cost in distribution.

Bad Debts

Bad debts are a serious factor in the fruit and vegetable business. In practically every large terminal market, the members of the produce trade have found it necessary to organize credit associations to assist in the collection of bills and to prevent sales to dishonest or incompetant buyers. Despite the best efforts of these credit associations, however, heavy losses are often incurred by wholesale produce firms. For the year 1924, the fifteen firms studied lost $39,856 in bad debts, or 4.4 per cent of the total costs of distribution. Thus bad judgment and dishonesty must be reckoned as an important marketing cost. The very nature of the commodity handled often necessitates the taking of chances with less reputable customers. In the case of highly perishable produce, such as strawberries, lettuce, melons, peaches, etc., the wholesaler may have to choose between holding the commodity a day longer and risking total loss from deterioration, or of selling to a customer of low financial and moral rating, and risking loss of the sales price.

Managerial Salaries

The thirty principals in the 15 firms studied received an average salary of $5,158 for their year's work. In addition, some of them held stock in the concerns and shared in the net profits or net losses of the firm, the re-

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[2] Farm Economics, New York State College of Agriculture, No. 36, page 505, August, 1926.

[3] In passing it may be well to note, however, that this phase is likewise a serious factor in the distribution of other commodities as well.

TABLE 4.—VARIATIONS IN ITEMS OF COSTS OF DISTRIBUTION PER $1,000 OF GROSS, SALES, 15 WHOLESALE PRODUCE FIRMS, PITTSBURGH, PA., 1924

Produce firm	A	B	C	D	E	F	G	H	Weighted Average
Wages of employees	$43.46	$43.18	$15.09	$21.24	$73.71	$27.37	$44.92	$37.26	$37.39
Rent & storage	10.60	4.17	8.00	1.03	2.63	4.22	8.43	13.26	6.29
Cartage & auto expense	6.08	1.34	7.16	1.55	……..	8.09	3.81	29.82	3.89
Bad debts	7.20	5.48	……..	……..	4.68	1.13	9.45	6.09	3.88
Telephone & telegraph	4.06	4.08	.87	2.99	2.81	.71	2.02	1.33	3.64
Miscellaneous expenses	.18	……..	.48	.18	……..	2.58	4.70	1.78	2.61
Brokerage & commission	4.28	……..	……..	……..	……..	.99	……..	……..	2.39
Interest	1.92	1.19	1.93	1.25	1.40	.12	7.41	2.70	1.99
Traveling expenses	2.02	5.59	1.31	1.47	2.80	.24	……..	.86	1.69
Advertising	1.25	3.29	.68	.40	4.61	.01	.41	……..	1.60
Office supplies	1.93	2.37	1.19	.61	2.80	.59	.84	.57	1.51
Taxes & insurance	.57	1.20	.23	.42	.45	.65	.58	.59	.67
Barrels, bags	……..	1.59	……..	……..	……..	……..	……..	……..	.60
Repairs & depreciation	.53	.49	……..	.68	……..	.47	.33	.72	.31
Heat & light	.46	.62	……..	……..	……..	.59	.69	1.22	.25
Management	10.82	20.45	19.99	4.35	13.67	10.80	38.49	22.36	15.06
Net profit	6.32			.82	15.19	22.78	1.75		4.35
Net loss		1.17	4.75					18.14	
Total cost	$101.68	$93.87	$52.18	$36.99	$124.75	$81.34	$123.83	$100.42	$88.12

TABLE 4.—Continued. VARIATIONS IN ITEMS OF COSTS OF DISTRIBUTION PER $1,000 OF GROSS SALES, 15 WHOLESALE PRODUCE FIRMS, PITTSBURGH, PA., 1924

Produce firm	I	J	K	L	M	N	O	Weighted Average
Wages of employees	$38.57	$88.14	$39.29	$21.97	$18.71	$39.04	$32.78	$37.39
Rent & storage	2.19	17.48	8.56	6.08	.91	14.53	1.07	6.29
Cartage & auto expense	4.84	14.12	.84	.98	……..	5.23	……..	3.89
Bad debts	1.23	1.06	3.03	……..	2.46	3.47	.65	3.88
Telephone & telegraph	17.64	……..	……..	.69	4.06	5.80	4.15	3.64
Miscellaneous expenses	2.39	9.33	5.30	9.83	3.97	18.07	.27	2.61
Brokerage & commission	7.51	……..	13.56	……..	……..	……..	……..	2.39
Interest	.95	4.72	.36	……..	3.40	3.56	1.31	1.99
Traveling expenses	3.24	……..	……..	……..	.59	……..	2.02	1.69
Advertising	10.40	2.52	……..	……..	1.09	.24	1.83	1.60
Office supplies	6.11	.64	……..	.26	.95	.71	1.86	1.51
Taxes & insurance	3.00	1.74	.94	……..	.25	.19	.39	.67
Barrels, bags	……..	……..	……..	……..	……..	13.07	……..	.60
Repairs & depreciation	……..	.32	……..	……..	.06	……..	……..	.31
Heat & light	……..	……..	……..	……..	……..	……..	……..	.25
Management	30.55	39.67	10.62	18.82	13.10	20.82	13.09	15.06
Net profit		5.49	1.47		1.43	3.25	21.78	4.35
Net loss	10.86			7.36				
Total cost	$117.76	$181.88	$83.97	$51.27	$50.98	$127.98	$81.20	$88.12

mainder going to other stockholders. If the principals had received all of the net profits in addition to their salaries, each principal would have received $6,650 for his year's work. In view of the fact that these produce firms must pay salesmen from $3800 to $5200 per year, the salaries of the managers or principals, who must supervise these salesmen, would not seem to be unduly high, especially in view of the nature of the work, and the unusual hours during which it must be performed.

Profits and Losses

While, on the average, a net profit was made by these fifteen firms during the year 1924, there were five out of the fifteen concerns whose books showed a net loss for the year. It is clearly recognized that the value of these data is limited by the small number of accounts studied and the fact that only one year's records were obtained.[4] A study by the writer of the accounts of several prominent Pittsburgh produce firms covering a period of years showed no substantial variation from the facts presented.

[4] Members of the Pittsburgh Produce Exchange Club assured the writer that the fifteen firms studied were representative of the Pittsburgh trade.

Use of Cost Data

There are not, insofar as can be learned, any standards of comparison which the manager of a wholesale produce firm might use in studying his business operations. That there may be a need for such a standard is suggested by the fact that the labor cost of handling fruits and vegetables per $1,000 of gross sales by these fifteen Pittsburgh firms varied from $15.09 to $88.14, and averaged $37.39. (Table 4.). Similar variations may be noted in other items of cost. The total costs of distribution per $1,000 of gross sales varied from $36.99 to $181.88, and averaged $88.12.

It is suggested that the data in Table 4 may furnish a basis for comparison of costs for wholesale produce firms in Pittsburgh in general, and for the fifteen firms who cooperated in this study in particular. If it is assumed that an efficient firm should have its individual cost items below or at least not in excess of the average, a comparison of costs, item for item, with the average of all firms may be of service to the management of produce firms in locating weak spots in their organizations and making them more efficient.

M. P. Rasmussen.

PRICES OF FARM MACHINERY

Index numbers of wholesale prices of farm machinery are shown in Table I. When prices in 1913 were represented by 100, prices last spring were 178. Since the index number of the prices of farm products in the United States is 134, it now requires one-third more farm products to buy a miscellaneous amount of farm machinery that was required before the war.

Since dealers in farm machinery usually pay about double prewar for labor to handle machines, it is probable that the index number of retail prices is somewhat higher than 178.

As in case of food, it would require a farm price index of about 180 to bring the farmer's buying power up to prewar.

In short, most of the agricultural difficulty would be solved if farm prices were 80 per cent above prewar. A few farm products are this much above prewar and the producers of them are in a fairly satisfactory position. Taxes and labor of skilled mechanics are more than double prewar, so that even at a farm price of 180, farm products would not have their prewar exchange value, for paying taxes of hiring such labor.

TABLE 1.—INDEX NUMBERS OF WHOLESALE PRICES TO DEALERS OF TEN FARM IMPLEMENTS* F.O.B. CHICAGO 1913-1926

Date	with discount	without discount
April 15, 1913	100	100
April 15, 1914	102	102
April 15, 1915	101	102
April 15, 1916	107	108
April 15, 1917	133	134
April 15, 1918	177	175
April 15, 1919	180	178
April 15, 1920	178	175
April 15, 1921	178	176
April 15, 1922	147	153
April 15, 1923	167	165
April 15, 1924	189	186
April 1, 1925	178	175
March 1, 1926	178	176

*Agricultural Crisis and Its Causes. Report of Joint Commission of Agricultural Inquiry, 67th Cong. Report 408, Part I, p. 189, 1921. Later data furnished thru courtesy of Mr. A. E. McKinstrey of the International Harvester Company.

G. F. Warren and F. A. Pearson

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management
NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.
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No. 40 DECEMBER, 1926

BUSINESS CONDITIONS:—PRE-WAR = 100

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	115	111	...
1914	103	101	100	96	99	81	...
1915	100	101	103	119	71	101	101
1916	116	119	129	152	71	130	114
1917	170	180	180	140	98	124	129
1918	186	206	198	130	121	121	160
1919	206	215	210	160	112	94	185
1920	217	214	230	144	153	109	222
1921	144	119	150	118	135	48	203
1922	134	124	152	146	92	77	197
1923	142	137	157	155	102	112	214
1924	128	140	152	166	81	85	218
1925	147	154	162	221	83	97	223
Jan., 1925	136	154	163	201	83	110	223
February	136	153	164	203	86	111	220
March	136	157	164	200	88	109	224
April	141	152	159	201	90	102	218
May	150	151	158	209	89	91	221
June	157	153	160	214	87	88	220
July	150	156	163	222	80	88	220
August	156	160	163	228	74	88	222
September	148	152	163	236	76	89	223
October	147	151	160	243	78	92	225
November	165	153	161	248	84	97	226
December	159	152	159	250	87	103	229
Jan., 1926	158	150	159	252	99	106	229
February	156	150	158	255	100	98	225
March	158	145	154	239	97	103	229
April	171	146	154	232	96	106	227
May	176	145	155	233	93	105	226
June	176	146	155	242	87	104	228
July	163	143	154	249	81	104	227
August	150	140	152	256	79	102	227
September	148	140	154	254	78	100	231
October	140	134	153	246	81	99	231
November	150	135	151	250	85	...	230

[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

Business continues active with little change. However, some adjustments are taking place in a few industries. Automobile production has declined more than the usual at this season of the year. New building continues in huge volume, which will sooner or later result in a large oversupply. Over-construction, increasing vacancies, and decreasing rents, here and there, indicate that the long period of abnormal expansion cannot continue indefinitely, but the large building program will continue well into next year. Large profits of the past few years and cheap money are the primary stimuli to building.

Industrial stocks are two and one half times prewar. Money is cheap. Wholesale prices have been stable for several months.

Farm Prices in the United States

The agricultural situation has changed but little since last month. The most striking changes in the United States farm prices were the advances in the index numbers for potatoes, beans and eggs; and the declines in the prices of cotton, veal calves, and sweet potatoes.

Farm Prices in New York State

Farm prices in New York declined from 148 in September to 140 in October, which is only slightly above the level of farm prices in the United States. Sharp advances occurred in the price of potatoes, beans and eggs. The index number of prices of nearby hennery white eggs, and milk cows declined during the month.

Wholesale Feed Prices

Feed prices are about 25 percent above prewar, whereas milk and eggs are about 50 percent above. During November, the corn feeds, corn meal, gluten, and hominy declined, and the wheat feeds, bran, middlings and wheat-mixed feed advanced. Linseed oil meal and cottonseed meal were about stationary.

G. F. Warren and F. A. Pearson

RELATION OF SUPPLY TO PRICE

Every added bushel to be sold reduces the price. How much the reduction is, depends on the particular product sold and on the point at which the price is taken.

The price of a grain crop to the farmer in a surplus producing region grows steadily lower as the supply grows higher, and approaches zero. As the supply grows smaller the price grows steadily higher so that a very small supply would sell for an indefinitely high price. In a deficit area, or in a city market, a very small supply also sells for an indefinitely high price, but a very large supply does not approach a zero price. It approaches a fixed quantity above zero. This fixed quantity is the charge for assembling, transporting, and distributing.

For most farm products there are regions where the local supply is not sufficient for local needs. In such a region, the farm price has the characteristics of a retail price so that when the United States crop is indefinitely large, the farm price, in such a region, approaches the cost of getting a supply from the surplus area. The average farm price of any commodity for the entire United States is therefore a mixture of prices that are like retail prices and prices that are like producers prices. In surplus areas, prices fluctuate much more violently than do average prices for the United States.

Cotton, wool and a few other farm products are not consumed on farms without passing through the channels of trade. The United States farm prices for such products therefore have the characteristics of prices in surplus areas, that is, they would approach a zero price if there were an infinite supply.

Even within states, the same principal holds. For example, there are portions of New York State where hay and potatoes are shipped in. The farm price in such a district has the characteristic of a retail price.

The farm prices as published by the United States Department of Agriculture include these deficit areas so that the prices are less variable than the prices in the surplus centers.

Curves showing the relation of supply to price have been calculated for many products. In many cases the price data is not sufficient to be certain as to the exact shape of the curves. Since changes in demand and changes in the cost of production occur, the curves for different periods will vary somewhat.

As there are so many long-time changes in supply and demand, it is probably better to make comparison of changes from year to year in production than from an assumed normal. In making the calculation on which the curves are based, the percentage change in production from that of the last five years has been compared with the percentage change in price from that of the last five years. In all cases, the prices have been expressed in terms of purchasing power. That is, prices have been divided by the index number of wholesale prices of all commodities as published by the United States Bureau of Labor Statistics. Therefore, they are prices in terms of dollars with the value that the dollar had for 1910-1914.

Potatoes

The relation of the United States production of potatoes to the purchasing power of the December 1 farm price of potatoes from 1895 to 1915 inclusive is shown in Figure 1. A potato crop that is 80 per cent of the crop of the previous five years on the average, sells on farms in the United States for 35 per cent more than the price for the previous five years. A crop that is 20 per cent above that of the last five year's, sells for 22 per cent less than the price for the five years. A crop deficit has a more striking effect on price than does an increase in the crop. If the price in a given year were a dollar a bushel, a United States crop of 20 per cent more would probably sell for 78 cents and a crop of 20 per cent less would probably sell for 135 cents.

Since the United States farm price includes many areas, where there is a deficit of potatoes, the farm price is somewhat like a retail price. In surplus areas, the price is more affected by supply than is the average price is the United States.

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[1] Since an infinitely small supply would sell for an infinitely high price at producers, wholesalers, and retailers prices, supply-price curves all meet when the supply is very small. In all cases, the price declines as the supply increases. Retail prices approach a fixed quantity above the zero price. The fixed quantity represents the costs of moving the product from producers to consumers. A price of cooked food in restaurants is so largely made up of these factors that it approximates a fixed price. Wholesale prices include less of the fixed charges and hence approach more nearly to a zero price when the quantity is large. Prices to producers in surplus areas in most cases approach zero when the supply is large, but may approach a small fixed amount above zero if there is an alternative use on the farm, or if the cost to the farmers of marketing, after the product is grown, is a considerable item. An equation which satisfies these conditions is:

$$y = \frac{b}{x^a} + c$$

in which c is the fixed price at which a very large supply would sell. Many other equations have been tried, but this one seems best to fit the principles involved. It has been used in calculating all the equations here discussed.

Expressed in terms of logarithms the equation is,

$$\log (y - c) = \log b - a \log x.$$

The solution of the normal equations to determine the constants is the same as the solution for a straight line equation, except that the answers are in terms of logarithms.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Flaxseed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Potatoes bu.	Sweet Potatoes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
November	74.6	37.6	148.8	58.0	86.7	228.1	3.67	18.1	13.07	175	198.4	144.4
December	70.7	39.1	153.7	58.4	87.9	232.1	3.74	17.4	13.40	174	201.5	141.5
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	3.26	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	3.49	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	3.23	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	3.28	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	3.31	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	......	126.4	110.6
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	......	141.3	88.5

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buckwheat	Flaxseed	Beans	Cotton*	Hay	Onions	Potatoes	Swee pota
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	08	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
November	118	97	169	97	121	141	164	150	112	182	331	189
December	121	101	179	96	123	150	163	143	109	172	332	196
1926												
January	120	104	181	97	121	139	145	140	113	......	352	190
February	115	99	174	88	114	127	157	145	108	......	344	195
March	110	97	164	87	116	117	148	133	108	......	337	196
April	106	97	160	85	114	120	150	134	106	......	397	194
May	104	96	158	85	116	117	146	127	107	......	352	197
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165
October	106	100	139	90	119	118	127	97	113	......	183	130
November	104	103	140	93	117	121	133	91	114	......	236	116

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chick-ens lb.	Eggs doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1925												
November	128	75	19.2	46.8	46.1	60.69	6.14	9.16	7.51	12.15	37.8	10.66
December	137	74	19.5	48.1	46.0	60.38	6.18	9.17	7.79	12.67	39.5	10.51
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.7	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chick-ens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1925												
November	177	55	168	184	173	121	118	132	176	222	220	153
December	178	54	181	160	163	121	118	133	178	223	228	156
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	159
September	125	56	180	163	166	134	121	143	163	201	188	156
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
November	96	48	149	76	87	4.60	13.50	215	110	115
December	95	50	160	75	87	4.50	14.30	218	120	116
1926										
January	94	51	169	77	88	3.66	14.30	244	136	117
February	95	50	173	76	87	3.78	13.90	245	128	127
March	90	50	163	77	85	3.60	14.20	245	129	126
April	90	51	158	74	85	3.54	14.10	300	130	133
May	89	53	158	76	89	3.60	14.50	290	124	133
June	88	50	157	77	94	3.60	15.00	225	135	133
July	88	52	149	72	97	3.48	15.30	170	140	129
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
November	125	104	154	101	121	191	91	384	169	66
December	127	106	163	100	121	185	94	341	162	65
1926										
January	131	113	171	103	124	156	94	381	168	68
February	134	106	173	101	121	162	91	355	147	73
March	127	106	163	100	120	156	91	360	143	72
April	127	104	158	96	116	155	91	435	126	73
May	122	106	158	96	119	153	92	403	110	75
June	117	98	154	96	122	154	92	321	138	74
July	116	102	148	92	115	144	96	246	159	74
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1 82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
November	23.7	64	77.8	53	2.66	83.10	12.00	5.80	6.60	12.40	43	11.80
December	23.5	61	57.6	53	2.68	81.70	12.20	5.90	6.40	12.90	44	12.00
1926												
January	25.6	46	46.2	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	26.9	38	40.5	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	26.8	33	36.8	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	28.5	31	35.3	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	28.4	29	35.8	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	28.1	30	36.9	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	28.0	32	40.0	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
November	163	183	142	166	141	147	136	106	168	206	205	159
December	170	149	117	156	140	145	139	108	147	209	210	163
1926												
January	188	121	116	150	139	154	143	112	141	199	195	157
February	192	119	119	148	141	155	146	121	154	200	191	160
March	189	118	142	155	147	150	144	119	136	190	186	157
April	193	148	157	157	162	159	152	121	132	176	176	159
May	191	153	157	159	184	165	140	103	148	188	175	158
June	185	150	151	164	193	162	146	113	134	202	170	170
July	184	145	147	167	175	165	141	103	139	187	167	168
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Standard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1925												
November	41.59	43.97	36.04	37.22	33.54	34.13	36.94	49.21	44.42	76.80	40.22	44.50
December	38.89	44.63	36.00	38.68	34.50	33.50	37.05	51.61	44.08	71.80	40.57	44.05
1926												
January	39.05	45.30	35.54	39.33	34.94	34.77	37.33	52.32	43.25	68.80	40.96	44.80
February	37.27	42.26	32.70	37.61	32.33	32.33	35.80	49.95	42.45	70.80	38.68	44.15
March	35.61	38.71	30.88	36.82	30.40	30.29	33.06	47.38	41.46	70.80	36.49	42.36
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	67.30	37.21	42.12
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	63.80	36.30	40.99
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	63.80	36.12	40.55
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	73.80	37.53	42.58
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Standard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1925												
November	138	155	125	120	140	135	142	144	141	143	141	139
December	135	151	128	124	139	132	140	151	140	134	140	139
1926												
January	142	150	128	127	134	133	138	151	132	132	139	143
February	136	138	118	118	123	123	132	144	132	136	130	139
March	133	132	116	116	116	116	122	142	130	135	126	134
April	129	135	120	116	129	127	131	157	127	128	130	133
May	120	138	112	111	124	116	129	154	127	122	127	128
June	121	140	111	110	125	117	126	154	127	122	127	127
July	132	150	120	111	128	117	128	160	129	141	133	132
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126

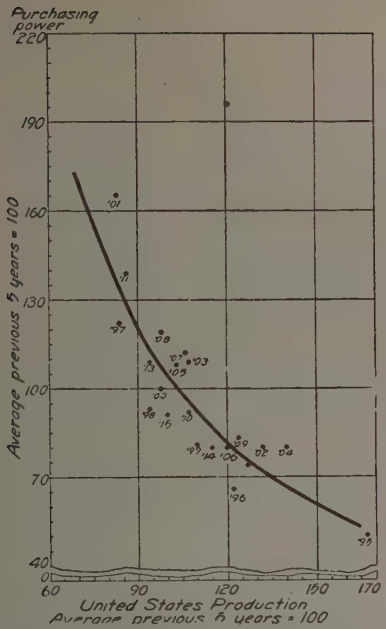

FIGURE 1. RELATION OF THE UNITED STATES PRODUCTION OF POTATOES TO THE PURCHASING POWER AT THE UNITED STATES DECEMBER 1 FARM PRICE. 1895-1915.

The dots show the relationship for each year. The curve shows the average relationship of supply to price.

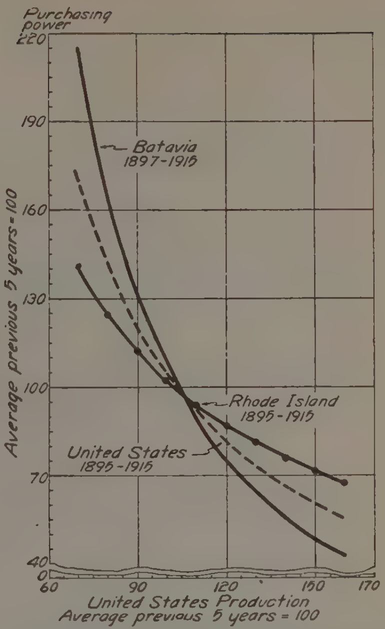

FIGURE 2. RELATION OF THE UNITED STATES PRODUCTION OF POTATOES TO THE PURCHASING POWER AT THE DECEMBER 1 FARM PRICE FOR THE UNITED STATES, BATAVIA, N. Y., AND RHODE ISLAND.

The farm price in a surplus center, such as Batavia, N. Y., fluctuates more violently than does the United States farm price and much more violently than the Rhode Island farm price, which is more like a retail price.

If the price paid to farmers at Batavia, New York is one dollar, it would on the average be only 70 cents, if the United States crop were 20 per cent larger and would be 154 cents if the United States crop were 20 per cent smaller. The farmers receive more for a small crop than they do for a large crop. They receive more for an 80 percent and a 120 percent crop than for two 100 percent crops. Even prices at Batavia do not represent a strictly surplus area. If one had prices for such a district as Aroostook County, Maine, the fluctuations would be even greater.

Retail prices are not available for many years, but Rhode Island farm prices give a suggestion as to how supply affects retail prices. When the United States crop was 20 per cent below normal, the Batavia price was 54 per cent above the average of the previous years, but the Rhode Island price was only 22 per cent above. (Figure 2).

Many persons cite the changes in wholesale or retail prices as evidence of farm conditions. These curves indicate the unsoundness of such a practice. If farm prices were as stable as retail prices, farming would be a more stable business. In the present agricultural depression those farmers who retail their products and those who sell at wholesale in a deficit area have not suffered as severely from the depression as have those in the surplus areas. The prices in deficit areas include freight and handling charges. These are so high that the farmer who gets the benefit of them

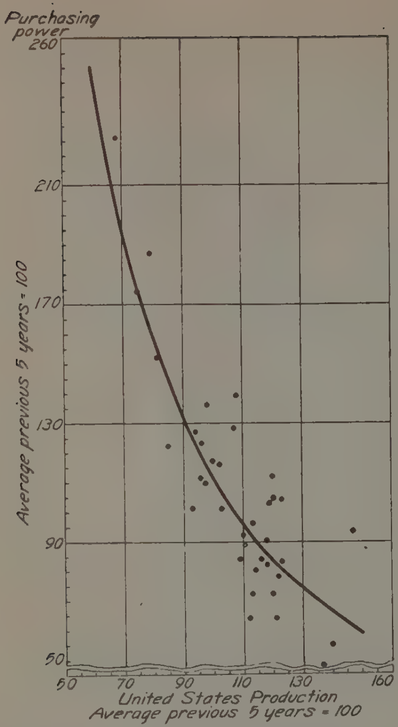

FIGURE 3. RELATION OF THE UNITED STATES PRODUCTION OF CORN TO THE PURCHASING POWER AT THE DECEMBER 1 IOWA FARM PRICE, 1877-1913.

A small crop is worth more than a normal crop.

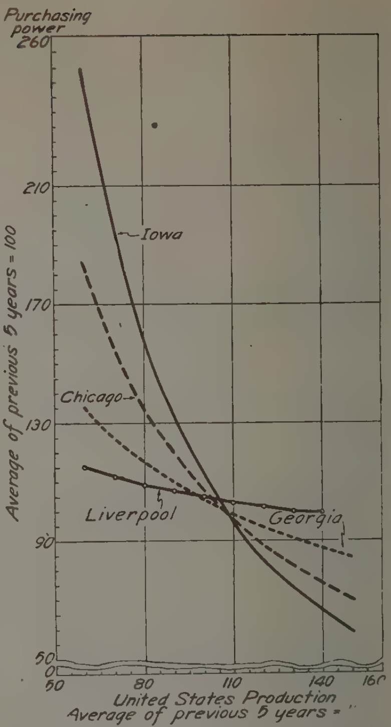

FIGURE 4. RELATION OF THE UNITED STATES PRODUCTION OF CORN TO THE PURCHASING POWER AT IOWA FARM PRICES, AT CHICAGO PRICES, AND AT GEORGIA FARM PRICES AND AT LIVERPOOL PRICES.

The Chicago price includes some handling charges and the Georgia price is largely handling charges. Hence the latter prices are more stable than the Iowa farm prices.

is protected from competition with surplus centers. For example, hay in Connecticut and in southeastern New York has continued to be a profitable crop, but in surplus producing areas the price is often below prewar. The doubled freight rates and handling charges in the deficit areas prevented prices from declining.

Corn

The relation of the United States production of corn to the purchasing power of the December 1 farm price of corn in Iowa, from 1877 to 1913 inclusive, is shown in Figure 3. If the United States crop is 20 per cent above that of the previous five years the Iowa price may be expected to be about 25 per cent below the price for the previous five years. If the crop is 20 per cent less than the average for the previous five years the Iowa price may be expected to be about 42 per cent above the previous five year average.

The price at Chicago includes handling charges so that it fluctuates less violently. If the crop is 20 per cent above that of the previous five years the Chicago price may be expected to be 17 per cent below the price for the previous five years.

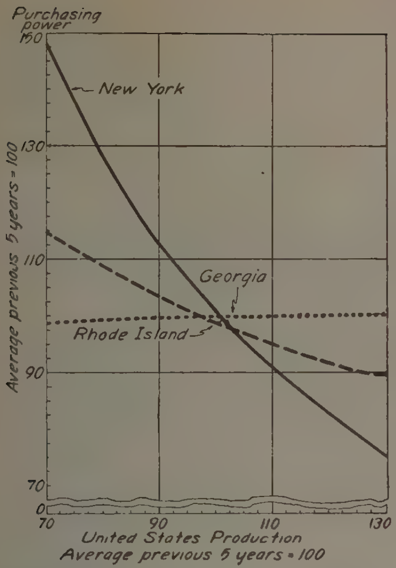

FIGURE 5. RELATION OF THE UNITED STATES PRODUCTION OF HAY TO THE PURCHASING POWER AT FARM PRICES IN NEW YORK, RHODE ISLAND, AND GEORGIA, 1875-1913.

The farm price in New York fluctuates violently with production. Prices in Rhode Island, which is near surplus areas, fluctuate somewhat. Prices in Georgia seem to bear no relationship to the size of the United States crop. They are primarily handling charges.

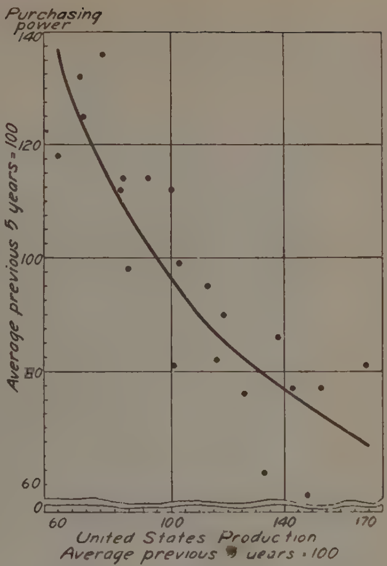

FIGURE 6. RELATION OF THE UNITED STATES PRODUCTION OF APPLES TO THE PURCHASING POWER AT THE WHOLESALE PRICE OF 16 VARIETIES IN NEW YORK CITY, 1894-1915.

Prices to farmers in surplus areas fluctuate more violently than the curve indicates.

Georgia does not produce enough corn for farm use, the farm price therefore includes not only handling charges for assembling corn at wholesale centers, but the costs of disseminating it through small stores in Georgia.

A corn crop 20 per cent above normal, makes the Iowa farm price 25 per cent below normal, the Chicago price 17 per cent, the Georgia farm price 9 per cent, and the Liverpool price 3 per cent below normal.

If the United States crop is 20 per cent below normal the Iowa farm price averages 42 per cent above normal, the Chicago price 26 per cent, the Georgia farm price 12 per cent and the Liverpool price 4 per cent above normal. The four curves are shown in Figure 4.

The folly of attempting to determine the condition of the Iowa farmer by the Chicago price of corn, by the United States farm price, or by any other price, except the Iowa farm price, is clearly indicated.

Hay

The relation of the United States hay crop to prices is shown in Figure 5. When the United States crop is 10 per cent below normal the New York farm price is 12 per cent above normal. Many parts of New York State are deficit areas so that the average price for the state fluctuates less violently than does the price in surplus areas. If prices were available for distinctly surplus areas of the state they would show much greater fluctuations. In the eastern part of the state, prices are about like those for Rhode Island which fluctuate very little. Georgia is in a region that is far from surplus areas and the farm price of hay seems to have no relationship to the United States production. Georgia prices are so largely handling charges that the size of the United States crop has practically no effect. When the handling charges become high enough, the small amount paid to producers is immaterial.

Other Grains

When the world production of wheat is 10 per cent above normal, the United States farm price may be expected to be 9 per cent below normal.

The United States farm price of oats is strongly affected by the United States production, but is more affected by the world crop.

TABLE 1. RELATION OF PRODUCTION TO PRICES*

Normal = 100

	Production above or below normal										
	40% below	30% below	20% below	10% below	normal	10% abv.	20% abv.	30% abv.	40% abv.	50% abv.	60% abv.
United States production											
Potato prices											
Batavia, N. Y., Dec. 1, 1897-1915		199	154	122	100	83	70	60	52	46	40
Minnesota, farm, Dec. 1, 1895-1915		192	150	121	100	84	72	62	54	48	42
United States, farm, Dec. 1, 1895-1915		162	135	115	100	88	78	70	64	58	53
New York City, wholesale, Oct.-June, 1895-1915		187	148	120	100	85	72	63	55	49	44
Rhode Island, farm, Dec. 1, 1895-1915		137	122	110	100	92	85	79	74	70	66
Rhode Island, farm, Dec. 1, 1871-1894		132	119	108	100	93	87	82	77	73	70
United States, farm, Dec. 1, 1871-1894		151	129	113	100	90	81	74	68	63	58
Apple prices											
New York City, wholesale, Kings, Sept.-April, 1898-1914	141	127	116	107	100	94	89	84	80	76	
New York City, wholesale, Greenings, Sept.-April, 1898-1914	151	134	120	109	100	93	86	81	76	72	68
New York City, wholesale, Ben Davis, Oct.-June, 1893-1914	137	125	115	107	100	94	89	85	81	78	75
New York City, wholesale, 16 varieties, Aug.-June, 1894-1914	142	128	116	107	100	94	88	84	79	76	72
Hay prices											
New York, farm, Dec. 1, 1875-1913		140	123	110	100	91	84	78	73		
United States, farm, Dec. 1, 1875-1913		129	117	108	100	93	88	83	79		
Rhode Island, farm, Dec. 1, 1875-1913		115	109	104	100	96	93	90	88		
Georgia, farm, Dec. 1, 1875-1913		104	103	101	100	99	97	96	94		
Corn prices											
Iowa, farm, Dec. 1, 1877-1913	224	175	142	118	100	86	75	66	59	53	
United States, farm, Dec. 1, 1875-1913	177	149	128	113	100	90	82	75	69	63	
Chicago, No. 2 cash, Dec. 1876-1913	171	145	126	112	100	90	83	76	70	65	
New York City, No. 2 Western, Dec. 1885-1913	160	139	123	110	100	92	85	79	73	69	
Georgia, farm, Dec. 1, 1885-1913	130	120	112	106	100	95	91	88	84	81	
Liverpool, England, mixed, year, 1898-1913	110	107	104	102	100	98	97	95			
Wheat prices											
United States, farm, Dec. 1, 1875-1913		102	101	101	100	100	99	99	98	98	
Nebraska, farm, Dec. 1, 1875-1913	101	101	100	100	100	100	100	100	99	99	
Oats prices											
United States, farm, Dec. 1, 1875-1913		140	123	110	100	91	84	78	73	68	
Barley prices											
United States, farm, Dec. 1, 1875-1913			116	107	100	94	89	84	80	77	73
Rye prices											
United States, farm, Dec. 1, 1875-1913		105	103	101	100	99	97	96	95	95	
Cotton prices											
United States, farm, Dec. 1, 1882-1913		119	112	105	100	95	91	88	85		
Pig Iron prices											
United States, year, 1902-1913		83	88	94	100	106	112	117	123	129	135
Phosphate Rock prices											
F. O. B. mines, year, 1902-1913		83	89	94	100	106	111	117	122	128	133
World production											
Wheat prices											
United States, farm, Dec. 1895-1914			124	111	100	91	84	78			
Oats prices											
United States, farm, Dec. 1899-1914			148	120	100	85	73	63			
Barley prices											
United States, farm, Dec. 1899-1913			116	107	100	94	89	84	80		
Rye prices											
United States, farm, Dec. 1899-1913			117	108	100	93	88	83			

*The original calculations were made by comparing production and the purchasing power of prices with the preceding five years. The purchasing power when production is 100, is considered as 100 in this table.

For all prices of farm products, the location of the supply as well as the total supply is important to every farming region. Even with wheat, which is so readily moved, the local supply is a very important factor in local price, as is shown by Timoshenko on page 579.

Apples

Prices paid to farmers in surplus areas are not available. Prices of 16 varieties at wholesale in New York City are shown in Figure 6. When the United States apple crop is 20 per cent more than normal, the wholesale prices of 16 varieties in New York City are 12 per cent less than normal.

Price Variations Compared with Pre-war

When handling charges are high relative to farm prices, the retail price is relatively inflexible. Hence it is unusually difficult to reduce retail prices to stimulate consumption, and farm prices therefore fluctuate violently.

For example if a product retails at $1.00 and the farmer gets $0.50, a reduction of 10 cents, or 10 per cent in the retail price will reduce farm prices approximately 10 cents, or 20 per cent. If the cost of shipping and retailing doubles and if farm prices increase only 40 per cent, which is about the relationship of the last few years, the corresponding prices would be: retail $1.70 and farm prices $0.70. A reduction of 17 cents, or 10 per cent on the retail price would then cause a reduction of about 17 cents, or 24 per cent in the farm price. If in each case, the same reduction in retail prices is necessary to get consumers to use an increased crop, the farm price must fluctuate much more violently in the second case.

The smaller the percentage that the farm price is of the retail price, the more violent the fluctuations in farm prices. Consumers prices of most farm products usually fluctuate sufficiently to dispose of the total

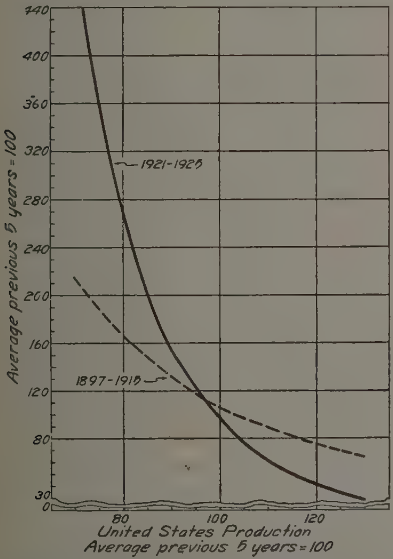

FIGURE 7. RELATION OF THE UNITED STATES PRODUCTION OF POTATOES TO THE PURCHASING POWER AT BATAVIA, N. Y., FARM PRICES BEFORE THE WAR AND NOW.

Prices to producers fluctuate more violently than formerly.

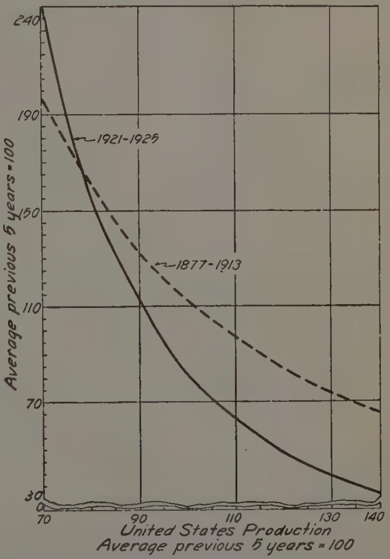

FIGURE 8. RELATION OF THE UNITED STATES PRODUCTION OF CORN TO THE PURCHASING POWER AT IOWA FARM PRICES BEFORE THE WAR AND NOW.

Prices to farmers fluctuate more violently than formerly.

supply. This is quite independent of who gets the money. Since most of the handling charges are the same regardless of retail prices, nearly all of the retail price change is accompanied by an equal change in farm prices. If handling charges rise relative to retail prices, farm prices must fluctuate violently.

Calculations have been made for a number of farm products for the period since 1920. The number of years is too short for the determination of accurate curves, but for cotton, corn, potatoes, apples, and hay the price fluctuations in surplus areas are more violent than before the war. Handling charges are about twice as high as before the war and retail prices of farm products are about two-thirds above prewar. The farm fraction of the retail price is now so small that slight percentage changes in retail prices make violent percentage changes in farm prices.

Industrial Products

In cities, many industrial products are made to order, or are made so shortly before they are consumed that the supply is kept in close relationship to demand. For such products, price governs supply, therefore, there is a contrasting situation between agriculture and industry. High priced agricultural products and low supply go together, but high priced industrial products go with high supply. When pig iron production is 10 per cent above normal, the price is 6 per cent above normal, but when potato production is 10 per cent above normal, the price of potatoes at Batavia, New York, is 17 per cent below normal. Similarly, when the production of phosphate rock is 10 per cent above normal, the price is 6 per cent above normal; but when the production of corn is 10 per cent above normal, the Iowa farm price is 14 per cent below normal.

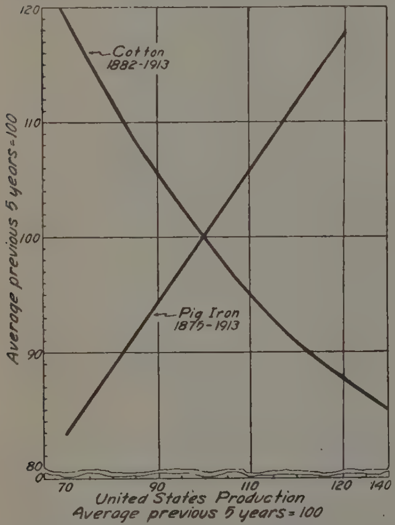

FIGURE 9. RELATION OF THE UNITED STATES PRODUCTION OF PIG IRON AND COTTON TO THE ·PURCHASING POWER.

For farm prices, high supply goes with low prices. For most industrial products, high supply goes with high prices.

Agricultural production must be started from one to many years before the product is ready for market so that the demand cannot be foretold. Furthermore, the total production is usually dependent on weather, diseases, and the like which make it impossible to foretell the supply that any given effort will produce. It, therefore, follows that for agricultural products the price at any time is governed by the supply.

G. F. Warren and F. A. Pearson

NUMBER OF FARM MACHINES SOLD IN THE UNITED STATES

The number of farm machines sold in the United States, during 1920-1925, inclusive, is shown in Table I. For most machines, the lowest point in sales occurred during 1921. The numbers were generally about one-third of the sales for the previous year. Some increase in sales has since occurred. In 1925, sales were generally less than one-half the sales in 1920. Most of the sales in 1920 occurred in the spring before the agricultural depression began. It is probable that the sales in that year. were more than enough to maintain the farm equipment. It is certain that the sales in the last five years have been less than sufficient to maintain the equipment.

At the present time, the farmers are repairing their old machinery and keeping it in service longer than normally would be the case.

The deficit in farm machinery, like all other items of farm up-keep, is becoming serious. When a period of farm prosperity comes, there will be a very large demand for farm machinery.

TABLE 1.—NUMBER OF FARM MACHINES SOLD IN THE UNITED STATES
From Reports by the Bureau of the Census

Machines	1920	1921	1922	1923	1924	1925
Plows and Listers	1,216,000	408,000	456,000	738,000	594,000	460,000
Cultivators	590,000	368,000	306,000	519,000	443,000	512,000
2 row corn planters	66,000	26,000	21,000	34,000	34,000	38,000
Cotton & cotton corn planters	140,000	29,000	24,000	75,000	76,000	87,000
Grain drills	110,000	23,000	22,000	25,000	15,000	32,000
Mowers	173,000	63,000	93,000	106,000	77,000	83,000
Grain binders	100,000	28,000	39,000	40,000	18,000	35,000
Grain threshers	21,000	9,000	10,000	8,000	9,000	12,000
Tractors (gas)	163,000	....	101,000	118,000	99,000	119,000
Farm wagons	298,000	....	113,000	187,000	123,000	171,000
Lime spreaders	9,000	3,000	3,000	3,000	4,000	6,000
Manure spreaders	104,000	27,000	33,000	41,000	29,000	51,000

Warren, G. F., Farm Machinery, Farm Economics No. 15, p. 138, June 1924.

G. F. WARREN and F. A. PEARSON

FACTORS AFFECTING FEED PRICES

Studies by Misner indicate that the farmers in some of the more important dairy sections of New York, spend $909 per farm for feed. This represents about one-third of the value of milk and over one-fourth of the cash farm expenses. The price of feed is therefore, a very important problem for New York dairymen.

Index numbers of the price of feed were published in the June number of Farm Economics.[1] The effect of a number of factors on feed prices

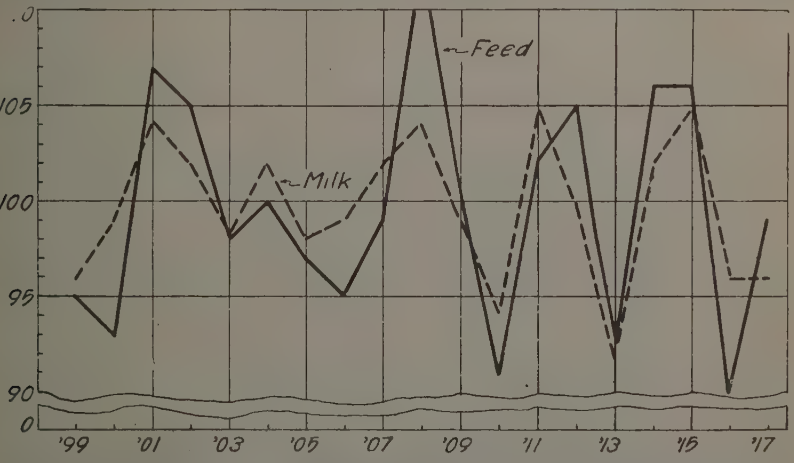

CHART 1. THE PRICE OF 3.7 PER CENT MILK AT UTICA, NEW YORK RELATED TO THE WHOLESALE PRICE OF FEED AT UTICA, NEW YORK TWO YEARS LATER.

The milk curve is reversed so that the high points represent low prices. Feed tends to be low two years after milk is high.

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[1] Warren, G. F., and Pearson, F. A., Prices of Feed. Farm Economics No. 35, pp. 464-492, June 1926

has been studied. The most important factors effecting feed prices are the price of corn the same year and the price of milk two years previous.

Feed tends to be high in price two years after milk has been low, and tends to be low two years after milk has been high.[2] Feed prices this year and milk prices one year ago are slightly related and tend to go together.

High corn prices a year ago tend to go with low feed prices this year, and of course high corn prices this year go with high feed prices this year.

These are the major factors[3] affecting the price of feed. The price of milk last year and the year before, and the price of corn this year and last year represented over 90 per cent of all the factors affecting the price of feed. This is based on a study covering the 19 years, 1899-1917 inclusive. The hog-corn ratio represented a slight additional factor.

G. F. Warren and F. A. Pearson

CHANGES IN THE TONNAGE OF FERTILIZER SOLD IN THE UNITED STATES[1]

This study is one phase of the work conducted under a Fellowship established in the Graduate School of Cornell University, by the Potash Importing Corporation of America.

The sale of fertilizer in the United States for the 26 years, 1900-1925, is divided into two major periods; first, a period of rapid growth, followed by a period in which there was little growth, and which is characterized by large annual fluctuations. (Figure 1.) The 15 years, 1900-1914, was a period of growth of the fertilizer tonnage; the average annual increase being 350,000 tons. For the 2 years, 1906 and 1907, however, there was practically no increase, and in 1912 there was a decrease. During the 12

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[2] GROSS CORRELATIONS BETWEEN THE INDEX NUMBERS OF PRICES OF A DAIRY FEED RATION, AT UTICA, NEW YORK, THE PRICE OF 3.7 PER CENT MILK AT UTICA, NEW YORK, THE PRICE OF NO. 2 CASH CORN AT CHICAGO AND THE HOG-CORN RATIO AT CHICAGO PRICES, 1899 to 1917, INCLUSIVE.

X_1 = price of feed; X_2 = price of milk in first preceding year; X_3 = price of milk in second preceding year; X_4 = price of corn; X_5 = price of corn in first preceding year and X_6 = hog-corn ratio.

$r_{12} = +0.237$
$r_{13} = -0.824$
$r_{14} = +0.784$
$r_{15} = -0.174$
$r_{16} = -0.736$
$r_{23} = -0.231$
$r_{24} = +0.100$
$r_{25} = +0.360$
$r_{26} = -0.371$
$r_{34} = -0.440$
$r_{35} = +0.387$
$r_{36} = +0.561$
$r_{45} = -0.228$
$r_{46} = -0.744$
$r_{56} = +0.395$

The price of feed and the price of milk in the second preceding year are closely correlated ($r_{13} = -0.824$). That is, when the price of milk is low for a period of time, feed tends to be high two years later. The price of feed is also closely related to the price of corn at Chicago the same year, $r_{14} = +0.784$. The hog-corn ratio is apparently negatively associated with the price of feed in the same year, $r_{16} = -0.736$. However, the partial correlation coefficients between the price of feed and the hog-corn ratio decreases in magnitude as the other factors are eliminated. The partial correlation coefficients are: $r_{16.2} = -0.718$; $r_{16.23} = -0.592$; $r_{16.234} = -0.023$ and $r_{16.2345} = -0.281$. It is therefore apparent that the high association between the hog-corn ratio and feed prices is reflected in other factors, probably corn.

[3] The multiple correlation between the price of feed, X_1, and the price of milk first preceding year, X_2, the price of milk second year preceding, X_3, cash corn at Chicago the same year, X_4, and cash corn at Chicago in the first preceding year, X_5, was $R_{1.2345} = 0.955$, which indicates that 91 per cent of the factors influencing feed prices have been measured. If the hog-corn ratio X_6, is included, the multiple correlation, $R_{1.23456} = 0.958$, indicates that 92 per cent of the factors have been measured.

The coefficient of determination, when taken without regard to sign, expresses in general the proportion of variability in feed prices that is due to variability in other factors. The price of milk during the second year, X_3, and the price of corn the same year, X_4, are the most important factors influencing the price of feed.

COEFFICIENTS OF DETERMINATION

Independent variables	Per cent
Price of 3.7 per cent milk at Utica, New York for the first preceding year, X_2	− 1.80
Price of 3.7 per cent milk at Utica, New York for the second preceding year, X_3	+48.60
Price of cash corn at Chicago for the same year, X_4	+37.99
Price of cash corn at Chicago for the first preceding year, X_5	− 3.16
Hog-corn ratio at Chicago, prices of No. 2 corn and heavy hogs for same year, X_6	+ 9.94

The regression equation for estimating the per cent that the index number of the price of feed is of the five year moving average centered on the third year, is:

$$X_1 = -0.1151X_2 - 1.0188X_3 + 0.2447X_4 + 0.0979X_5 - 0.0546X_6 + 184.667$$

The probable error of estimate was $0.41. This means that in about one-half of the years, the estimated price did not differ by more than 41 cents from the actual price, and in about one-fourth of the years, the estimated price was more than 41 cents above the actual price, and in one-fourth of the years the estimated price was more than 41 cents less than the actual price.

[1] The writer is indebted to G. J. Callister for many valuable suggestions and criticisms.

years, 1914-25, the fertilizer tonnage did not increase, and the fluctuations from year to year were much larger than in the previous period. The largest fluctuations occurred in 1915 and 1921, when there were decreases of 1,800,000 and 2,400,000 tons respectively. These decreases followed the big cotton crop of 1914 and the agricultural depression of 1920.

These fluctuations are primarily caused by changes in the value per acre of different farm crops. Increases or decreases in crop values cause changes in the fertilizer tonnage sold. In order to determine which crops effect the consumption of fertilizer to the greatest extent, the fertilizer tonnage sold each year was correlated with the value per acre of individual crops.[2] The highest correlation was obtained with the value of cotton per acre, (r = +0.695 ± 0.069). Therefore cotton represents about 59 per cent of the factors influencing fertilizer tonnage sold. Tobacco and corn are also correlated with fertilizer tonnage sold, while the value per acre of potatoes and hay are only slightly correlated. Oats, wheat and barley show no correlation. The combined effect of the value per acre of cotton, tobacco, corn and potatoes, and the fertilizer tonnage the two previous years account for 73 per cent of the factors affecting the total tonnage of fertilizer sold in the United States.[3]

Using these factors an estimate was made of the tonnage of fertilizer sold for each of the last 23 years.[4] These forecasted tonnages were compared with the actual tonnage sold. In 1924, the forecasted tonnage 7,323,000 was 50,000 tons more than the actual tonnage, 7,273,000. The estimated

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[2] FERTILIZER TONNAGE SOLD IN THE UNITED STATES CORRELATED WITH THE VALUE PER ACRE AND THE TOTAL CROP VALUE OF COTTON, TOBACCO, CORN, POTATOES, HAY, OATS, WHEAT, BARLEY, AND RYE, 1900-1925.*

Crop	Fertilizer tonnage correlated with	
	Value per acre	Total value of crop
Cotton	r = +0.695 ± 0.069	r = +0.686 ± 0.076
Tobacco	r = +0.557 ± 0.093	r = +0.607 ± 0.085
Corn	r = +0.441 ± 0.109	r = +0.443 ± 0.108
Potatoes	r = +0.204 ± 0.130	r = +0.220 ± 0.128
Hay	r = +0.160 ± 0.131	r = +0.192 ± 0.130
Oats	r = +0.100 ± 0.134	r = +0.066 ± 0.134
Wheat	r = +0.065 ± 0.134	r = +0.043 ± 0.135
Barley	r = −0.018 ± 0.135	r = −0.019 ± 0.135
Rye	r = −0.250 ± 0.126	r = −0.077 ± 0.134
Ten crops	r = +0.535 ± 0.096	
All crops		r = +0.424 ± 0.111

*The value of the various crops was deflated by using the year index of wholesale prices of the United States Bureau of Labor Statistics. The index for each year was expressed as a per cent of the preceding year. The fertilizer tonnage for each year was expressed as a per cent of the preceding year and lagged one year.

[3] MULTIPLE CORRELATIONS BETWEEN FERTILIZER TONNAGE SOLD IN THE UNITED STATES AND VARIOUS FACTORS. 1903-1925.

Fertilizer tonnage with value of cotton per acre 1 year, 2 years, 3 years and 4 years previous	+0.738 ± 0.061
Fertilizer tonnage with value of cotton per acre 1 year previous, and fertilizer tonnage 1 year and 2 years previous.	+0.774 ± 0.056
Fertilizer tonnage with value per acre of cotton, tobacco and corn, 1 year previous.	+0.782 ± 0.052
Fertilizer tonnage with value per acre of cotton, tobacco, corn and potatoes, 1 year previous, and fertilizer tonnage 1 year and 2 years previous.	+0.857 ± 0.037

[4] THE REGRESSION EQUATION BASED ON THIS MULTIPLE CORRELATION IS

(1) $X_1 = .39577X_2 + .27443X_3 - .12081X_4 + .28196X_5 + .15052X_6 + .03208X_7 - 1.37527$

When

X_1 = Fertilizer tonnage expressed as a per cent of the preceding year; X_2 = Value of cotton per acre in the United States, deflated by the wholesale price index of the United States Bureau of Labor Statistics, expressed as a per cent of the preceding year; X_3 = Value of tobacco per acre in the United States, deflated by the wholesale prices of the United States Bureau of Labor Statistics, expressed as a per cent of the preceding year; X_4 = Value of corn per acre in the United States, deflated by the wholesale price index of the United States Bureau of Labor Statistics, expressed as a per cent of the preceding year; X_5 = Fertilizer tonnage sold in the United States for the previous year, expressed as a per cent of the tonnage of the second preceding year; X_6 = Fertilizer tonnage sold in the United States for the second preceding year, expressed as a per cent of the tonnage of the third preceding year; and X_7 = Value of potatoes per acre in the United States, deflated by the wholesale price index of the United States Bureau of Labor Statistics, expressed as a per cent of the preceding year.

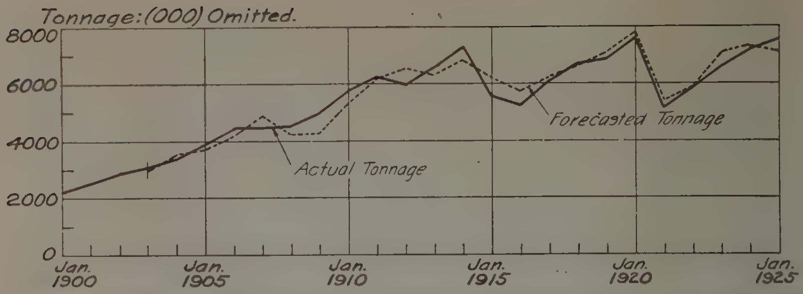

FIGURE 1. FORECASTED AND ACTUAL FERTILIZER TONNAGE SOLD IN THE UNITED STATES, 1903-1925 INCLUSIVE

During years of violent changes the forecasted tonnage did not change as much as the actual tonnage.

tonnage was 0.7 per cent too high. In 1915, the forecasted tonnage, 6,269,000, was 706,000 tons more than the actual tonnage, 5,563,000. The estimate was 12.7 per cent too high. A comparison of the forecasted and actual tonnages are shown in Table 1. The probable error of the forecast for the 23 year period, is 4.1 per cent. This means that for about one-half the years, the actual tonnage was between 96 and 104 per cent of the forecasted tonnage and in about one-fourth of the years the actual tonnage was less than 96 per cent of the forecasted tonnage, and in about one-fourth of the years the actual tonnage was more than 104 per cent of the forecasted tonnage.

TABLE 1. ACTUAL AND FORECASTED TONNAGE, 1903-25

Year	Actual tonnage 000 omitted	Forecasted tonnage 000 omitted	Error of forecast 000 omitted	Per cent error	Per cent error squared
1903	3075	2983	− 92	− 3.0	9.00
1904	3360	3512	+152	+ 4.5	20.25
1905	3850	3696	−154	− 4.0	16.00
1906	4450	4250	−200	− 4.5	20.25
1907	4452	4877	+425	+ 9.5	90.25
1908	4525	4336	−189	− 4.2	17.64
1909	4912	4367	−545	−11.1	123.21
1910	5754	5315	−439	− 7.6	57.76
1911	6348	6168	−180	− 2.8	7.84
1912	5981	6532	+551	+ 9.2	84.64
1913	6544	6334	−210	− 3.2	10.24
1914	7341	6819	−522	− 7.1	50.41
1915	5563	6269	+706	+12.7	161.29
1916	5359	5741	+382	+ 7.1	50.41
1917	6172	6233	+ 61	+ 1.0	1.00
1918	6724	6672	− 52	− 0.8	.64
1919	6858	7107	+249	+ 3.6	12.96
1920	7609	7832	+223	+ 2.9	8.41
1921	5184	5471	+287	+ 5.5	30.25
1922	5889	5894	+ 5	+ 0.1	.01
1923	6639	7132	+493	+ 7.4	54.76
1924	7273	7323	+ 50	+ 0.7	.49
1925	7561	7171	−390	− 5.2	27.04
Total					854.75

Σ of errors squared =854.75
Average squared errors = 37.163
Standard deviation of error = 6.09
Probable error = 4.11

Thus the value per acre of cotton, tobacco, corn and potatoes, and the fertilizer tonnage of the two previous years form a basis upon which to make a fairly accurate forecast of the fertilizer tonnage that will be consumed the following year.

Based on these factors, the probable fertilizer tonnage for 1927 is 86 to 94 per cent of the 1926 tonnage. This forecast is based on the assumption that the December 1 value per acre of cotton is $21.33; of tobacco $147.27; corn $17.12; and potatoes $160.20.

The forecasting equation seems to somewhat underestimate the violent changes in tonnage. For instance, in 1921, there was a big drop in tonnage. Although a marked decline was predicted, the forecast was about 5 per cent too high. As there has been a precipitous decline in the price of cotton, the actual fertilizer tonnage sold in the United States during 1927 may approach the lower limit of the range, 86 per cent.

Although the price of cotton is low, the price of potatoes and certain types of tobacco are high, and in many localities where tobacco and potatoes are grown, more fertilizer will probably be used in 1927 than in 1926. This will tend to partially offset the inevitable decrease in fertilizer consumption in the states where the farm income is largely derived from cotton.

E. E. VIAL

CHANGES IN SEASONAL SALES OF FERTILIZER TAX TAGS IN SOUTH CAROLINA

This study is a part of the work conducted under a Fellowship established in the Graduate School of Cornell University, by the Potash Importing Corporation of America.

The state of South Carolina levies a tonnage tax on "cotton-seed meal, commercial fertilizer with more than 1 per cent total phosphoric acid or potash or nitrogen, and fertilizer materials."[1] Fertilizer tax tags, which are attached to the bags of fertilizer, are purchased by the fertilizer manufacturer at a cost of 25 cents for a ton of fertilizer.

Most of the tax tags are sold during the months of January, February and March. (Figure 1.)

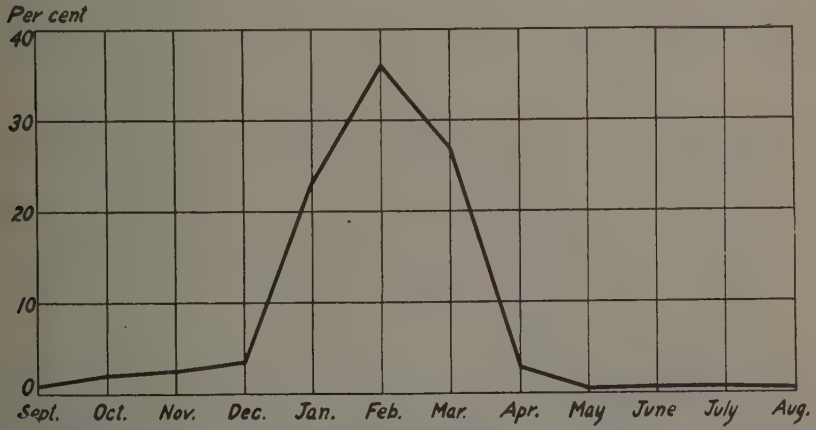

FIGURE 1.—PER CENT OF FERTILIZER TAGS SOLD EACH MONTH, IN SOUTH CAROLINA, 1896-97 TO 1924-25 INCLUSIVE

The largest sales occur during January, February and March.

For the 31 years, 1894-95 to 1924-25 there was a general downward trend in the percentage of the total season's sale of tax tags sold during November, December and January, (Figure 2.) In some years, a larger part of the sales occur in earlier months of the season than in other years. In 1919-1920, the sales were large during November, December and January. They were 40 per cent of the total season's sales. In 1921-22, however, only 11 per cent of the total sales were in these 3 months.

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[1] American Fertilizer Handbook, p. 82, 1925.

The relationship between the fertilizer tonnage and the percentage of the tax tag sales in different seasons of the year is given in Table 1. Apparently, when the fertilizer tonnage is 34 per cent greater than the preceding year, one-third of the tax tags are purchased during November, December and January. When the fertilizer tonnage is 80 per cent of the preceding year, only one-fifth of the tax tags are purchased during these 3 months, and about 75 per cent during the following 3 months, February, March and April.

TABLE 1. FERTILIZER TONNAGE AND PER CENT OF SEASON'S TAG SALES FOR THE 3 MONTHS, NOVEMBER, DECEMBER AND JANUARY, AND FOR THE 3 MONTHS, FEBRUARY, MARCH AND APRIL, FOR SOUTH CAROLINA, 1894-95 to 1924-25

Fertilizer tonnage in per cent of the preceding year	Per cent of total tag sales in November, December and January	Per cent of total tag sales in February, March and April
80	19.7	74.8
115	29.6	65.0
134	33.5	59.9

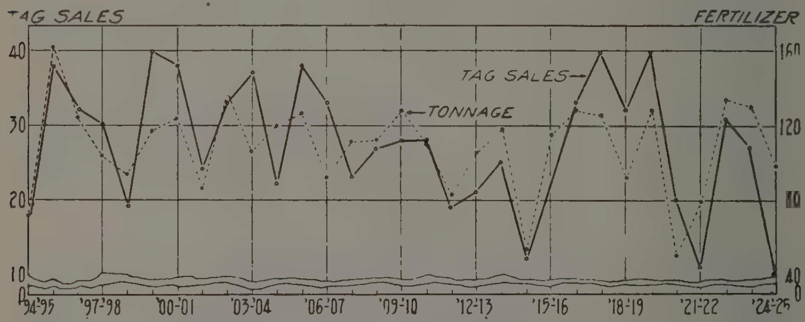

FIGURE 2.—FERTILIZER TONNAGE[1] AND TAG SALES[2] IN NOVEMBER, DECEMBER AND JANUARY, IN SOUTH CAROLINA, 1894-1924 INCLUSIVE

When the fertilizer tonnage increases, there is a tendency to purchase fertilizer early in the season. Conversely, when the tonnage decreases, there is a tendency to delay purchases.

After studying various factors it was found that 57.5 per cent[2] of the factors influencing the time of purchasing tax tags were the fertilizer tonnage the same year, and the fertilizer tonnage the first, second and third preceding years. The equation[3] for predicting the percentage of tag sales during November, December and January is

$$X_1 = .24265X_2 + .12362X_3 + .01152X_4 + .07541X_5 - 21.94167$$

This equation indicates that when the fertilizer tonnage for any year is less than the preceding year, as is the case this season, there is a tendency for the sales of tax tags to be delayed until late in the season. It also indicates that when there is a decrease in the fertilizer tonnage each year, for several consecutive years there is a still greater tendency for the purchase of tax tags to be delayed until late in the season.

The forecasted percentages of sales during November, December and January are shown in Table 2. In some years the forecast was fairly accurate but in other years there was a considerable error. The largest error, +16, occurred in 1924-25. The probable error of the forecast for the 31 years, was 3.8 per cent.

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[2] $R_{1.2345} = +0.758 \pm 0.051$

[3] X_1 = Per cent of total years fertilizer tax tags sold during the 3 months November, December and January; X_2 = Fertilizer tonnage of South Carolina for the same year expressed as a per cent of the first preceding year; X_3 = Fertilizer tonnage of South Carolina for the first preceding year expressed as a per cent of the second preceding year; X_4 = Fertilizer tonnage of South Carolina for the second preceding year expressed as a per cent of the third preceding year; and X_5 = Fertilizer tonnage of South Carolina for the third preceding year expressed as a per cent of the fourth preceding year.

As the outlook for 1927 is for a decreased tonnage, it is to be expected that the purchase of tax tags this season will be delayed much more than usual.

TABLE 2. ACTUAL AND FORECASTED PERCENTAGE OF TAX TAGS SOLD DURING NOVEMBER, DECEMBER AND JANUARY, SOUTH CAROLINA 1894-95 TO 1924-25 INCLUSIVE.

Season	Actual percentage of tax tags sold during November December January	Forecasted percentage of tax tags sold during November December January	Error	Error squared
94-95	17	12	− 5	25
95-96	38	38	0	0
96-97	32	36	+ 4	16
97-98	30	26	− 4	16
98-99	19	28	+ 9	81
99-00	40	29	−11	121
00-01	38	32	− 6	36
01-02	24	23	− 1	1
02-03	33	33	0	0
03-04	37	31	− 6	36
04-05	22	29	+ 7	49
05-06	38	36	− 2	4
06-07	33	26	− 7	49
07-08	23	27	+ 4	16
08-09	27	30	+ 3	9
09-10	28	32	+ 4	16
10-11	28	30	+ 2	4
11-12	19	22	+ 3	9
12-13	21	25	+ 4	16
13-14	25	29	+ 4	16
14-15	12	13	+ 1	1
15-16	22	22	0	0
16-17	33	33	0	0
17-18	40	30	−10	100
18-19	32	26	− 4	16
19-20	40	32	− 8	64
20-21	20	17	− 3	9
21-22	11	12	+ 1	1
22-23	31	31	0	0
23-24	27	31	+ 4	16
24-25	10	26	+16	256
Total				983

Σ of errors squared = 983
Average squared errors = 31.71
Standard deviation of the error = 5.6
Probable error = 3.8

E. E. VIAL

THE COST OF DISTRIBUTING MILK IN BINGHAMTON, NEW YORK*

Table 1 gives a basis for comparing the distributing costs of dealers selling raw milk with those of dealers selling pasteurized milk. The first two columns show the average cost of all items of expense for the two types of dealers. The dealers selling pasteurized milk have, by far, the greater expenses for each item listed. It should be noted that the dealers in raw milk have no expenses under the head of "office and management".

The average cost per quart indicate that there is little difference between dealers selling raw milk and those selling pasteurized milk, because the latter handle a much larger volume of milk. It is noticeable that the dealers in pasteurized milk have a somewhat lower per quart cost in the item of "delivery labor", but that this is more than offset by the greater per quart cost of such items as, "office and management", "repairs on plant equipment," "depreciation on plant equipment", "bottles cases etc.", "loss from bad debts", "advertising", "coal", and "feed".

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*Data from a survey of 32 milk dealers in Binghamton, New York for the year 1924.

Table 2 presents these same items of cost when the dealers are grouped according to volume of business. The blank spaces under the head of "office and management" are explained by the fact that only dealers in the group doing the largest volume of business have expenses for this item.

A study of the total average cost per quart for each group seems to indicate an appreciable lower per quart cost in the case of the dealers having the larger volume. This lower cost is largely the result of more efficient use of labor and equipment in the delivery of milk.

TABLE 1.—AVERAGE COST PER QUART OF MILK SOLD BY 32 DEALERS IN BINGHAMTON, NEW YORK—1924

Item	Average cost		Average cost per quart	
	Raw	Pasteurized	Raw	Pasteurized
Number of dealers	17	15	17	15
Plant labor	$ 784	$ 5,883	1.13¢	1.14¢
Delivery labor	913	7,479	1.64	1.34
Office & management		2,214		.15
Repairs on delivery equipment	89	441	.28	.12
Depreciation on delivery equipment	198	633	.50	.15
Repairs on plant equipment	13	1,307	.01	.08
Depreciation on plant equipment	55	1,168	.06	.20
Bottles, cases, etc.	231	2,104	.28	.45
Coal	76	890	.07	.14
Ice	58	289	.10	.12
Gas oil and tires	291	1,356	.52	.28
Feed	26	887	.01	.09
Miscellaneous supplies	25	86	.04	.11
Taxes on land & buildings	22	261	.03	.05
Advertising	14	1,026	.01	.09
Loss from bad debts	76	589	.13	.22
Truck insurance	20	64	.06	.03
Bottle exchange	30	110	.02	.05
Rent of land & buildings	8	218	.03	.08
Depreciation on land & buildings	25	569	.04	.07
Interest on capital	109	1,415	.22	.26
Miscellaneous expense	56	3,127	.06	.33
Total	3,119	32,116	5.24	5.55

TABLE 2.—AVERAGE COST PER QUART OF MILK SOLD BY 32 DEALERS IN BINGHAMTON, NEW YORK—1924

Item	Average cost			Average cost per quart		
Annual purchases in quarts	Less than 100,000	100,000 to 600,000	More than 600,000	Less than 100,000	100,000 to 600,000	More than 600,000
Number of dealers	11	16	5	11	16	5
Plant labor	$615	$1,920	$12,817	1.41¢	1.05¢	.79¢
Delivery labor	670	2,253	16,857	2.13	1.19	1.12
Office & management			6,641			.44
Repairs on delivery equipment	80	182	863	.42	.10	.09
Depreciation on delivery equipment	134	319	1,257	.65	.20	.09
Repairs on plant equipment	6	25	3,873	.01	.02	.23
Depreciation on plant equipment	59	250	2,760	.10	.13	.18
Bottles, cases, etc.	119	763	4,394	.31	.39	.38
Coal	57	251	2,001	.08	.12	.11
Ice	73	208	237	.16	.09	.05
Gas, oil and tires	180	559	2,871	.60	.32	.26
Feed	11	114	2,358	.02	.05	.11
Miscellaneous supplies	44	48	92	.17	.03	.01
Taxes on land & buildings	30	46	644	.05	.02	.05
Advertising	12	50	2,940	.01	.03	.19
Loss from bad debts	120	341	667	.26	.16	.06
Truck insurance	18	50	58	.09	.03	.01
Bottle exchange	13	99	86	.02	.05	.01
Rent of land and buildings	19	159	133	.07	.06	.03
Depreciation on land and buildings	34	61	1,520	.07	.03	.11
Interest on capital	112	342	3,275	.33	.17	.25
Miscellaneous expense	42	336	8,404	.07	.16	.51
Total	2,448	8,376	74,748	7.03	4.40	5.08

E. R. McNeil

WHEAT PRICES

The general opinion of the statisticians who have recently studied the problem of wheat prices is that the price of wheat in the United States, unlike that of corn and oats, is determined more by the world crop conditions than by the home production.

The detailed study of correlation between the prices of spring wheat at Minneapolis and Chicago and the yield per acre of spring and winter wheat indicates that this statement does not hold for spring wheat.

Prices of wheat were correlated with yield per acre of wheat and not with total production because the estimates of production are less reliable than the estimated yield per acre.

The price of wheat depends not only on the last crop, but on the crop of at least two preceding years.[1] A high yield per acre tends to be followed by a high price during the third year, and a low yield tends to be followed by low prices two years later.

This relationship can not be totally explained by quasi-periodicity in the fluctuations of prices and of yield. It depends partially on changes in carry-over, partially on the influence of prices on the acreage in the following years[2] and on other unknown factors. By using the relationship between prices and yields per acre in the three preceding years closer correlation between the prices and the yield per acre is obtained than if only one year is used.

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[1] Tschetvericoff, N. S., Correlation Between Grain Prices and Crops. The Problems of Economic Conditions. Vol. I p. 80-112, 1925, Moscow, Russia.

[2] The elimination of the influence of quasi-periodicity in the fluctuations of yield may be attained by the use of the partial coefficient of correlation between the price of wheat and the yield per acre of wheat two years before, excluding the influence of the yield in the simultaneous year and the yield in the first preceding year.

This partial coefficient of correlation, $r_{14.23} = +0.41$, is smaller than the corresponding gross correlation, $r_{14} = +0.64$, but is significant.

When the influence of the quasi-periodicity of prices are eliminated, the positive coefficient of correlation is further diminished but does not disappear.

If X_1 = the price of No. 1 Northern wheat at Minneapolis in the year y; X_2 = the same price of wheat in the year $y-2$; X_3 = the yield per acre of spring wheat in the year y; and X_4 = the yield of spring wheat in the year $y-2$, then

the gross correlations are:	the partial correlations are:
$r_{12} = -0.42$	$r_{14.2} = +0.53$
$r_{13} = -0.55$	$r_{14.2} = +0.49$
$r_{14} = +0.64$	$r_{14.23} = +0.23$
$r_{34} = -0.53$	

$r_{14.23} = +0.23$, represents the correlation between the price in the year y, and the yield in the year y-2, if the influences of the price in the year y-2 and the yield in the year y are eliminated. Positive correlation does not disappear.

TABLE I. GROSS, PARTIAL, AND MULTIPLE COEFFICIENTS OF CORRELATION BETWEEN THE PRICE OF NO. 1 NORTHERN WHEAT AT MINNEAPOLIS, THE YIELD OF SPRING AND WINTER WHEAT IN THE UNITED STATES DURING THE PRECEDING YEARS, AND WORLD WHEAT PRODUCTION 1893 TO 1913 INCLUSIVE

X_1 = price of wheat in the crop year y; X_2 = yield of spring wheat in the year y; X_3 = yield of spring wheat in the year y-1; X_4 = yield of spring wheat in the year y-2; X_2' = yield of winter wheat in the year y; X_3' = yield of winter wheat in the year y-1; X_4' = yield of winter wheat in the year y-2; X_5 = the world production in the year y; and X_5' = the world production plus carry-over in the year y.

Gross Correlations	Partial Correlations
$r_{12} = -0.55$	$r_{12.3} = -0.60$
$r_{13} = 0.00$	$r_{12.4} = -0.33$
$r_{14} = +0.64$	$r_{14.2} = +0.49$
$r_{12'} = -0.20$	$r_{14.3} = +0.66$
$r_{13'} = -0.23$	$r_{12.34} = -0.27$
$r_{14'} = +0.25$	$r_{14.23} = +0.41$
$r_{15} = -0.68$	$r_{15.34} = -0.49$
$r_{15'} = -0.70$	$r_{15.234} = -0.48$
	$r_{15.2342'3'4'} = -0.42$
Multiple correlations	
$R_{1.234} = 0.69$; $R_{1.2342'3'4'} = 0.74$	

All coefficients of correlation were calculated by using the variate differences method of correlations (first differences) which gives better results than the deviations from the secular trend.

If the dependence of wheat prices on the yield per acre in the three preceding years is taken into consideration, the correlation between the prices of spring wheat at Chicago and at Minneapolis and the yield per acre of wheat in United States is more than the correlation with the world production.[3] In recent years, the importance of United States production on the United States prices has increased. Furthermore, the influence of world production on prices of wheat in United States is exaggerated. The correlation between the wheat prices and the world crops is in large measure a derived correlation. It is the result of the correlation between the world production of wheat and the United States wheat production which enters as considerable item in the world production.[4]

V. P. Timoshenko

THE VALUE OF FARM EXPERIENCE FOR AGRICULTURAL COLLEGE GRADUATES IN AGRICULTURAL BUSINESS

The significant feature brought out in Table 1 is the decline in the proportion of men not farm-reared and the increase in farm-reared men in agricultural business. The proportion of the graduates not farm-reared in that type of occupation decreased gradually from 21.7 percent of those men from the classes of 1910-1914 to 14.3 percent from the classes of 1921-1923. Whereas during the same period the proportion of farm-reared graduates to find employment in agricultural business increased from 9.0 percent to 15.6 percent.

TABLE 1—THE PROPORTION OF GRADUATES FROM THE NEW YORK STATE COLLEGE OF AGRICULTURE WHO ARE ENGAGED IN AGRICULTURAL BUSINESS, EXCLUSIVE OF FARMING FOR THREE PERIODS, 1910-14, 1917-21, AND 1921-23.

	Percent of graduates engaged in agricultural business from the classes of		
	1910-1914	1917-1921	1921-1923
Farm-reared men	9.0	12.1	15.6
Men not farm-reared	21.7	18.8	14.3

Apparently the demand for farm-reared agricultural college graduates is increasing in this branch of industry with no corresponding increase in the supply. When contemplating a college education, farmer's sons who do not desire to farm should give careful consideration to the opportunities that are available for taking advantage of their farm experience. An agricultural college course may fit them for a business career that will prove satisfactory and in which they may capitalize on their having been brought up on a farm. Those who desire to farm will of course be interested in an agricultural course.

A. W. Gibson

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[3] The coefficient of correlation between the world production of wheat and price of No. 1 Northern spring wheat at Minneapolis was $r_{15} = -0.68$; when the carry-over is added to the world wheat production the correlation is $r_{15'} = -0.70$. The multiple coefficient of correlation between the price of No. 1 Northern spring wheat at Minneapolis and six other factors, the yield per acre of spring wheat in three preceding years and the yield per acre of winter wheat in three preceding years, was $R_{1.2342'3'4'} = 0.74$.

The yields per acre of spring wheat and of winter wheat were taken as separate factors, because the yield of spring wheat and the yield of winter wheat have different types of fluctuations. Consequently, combining the yield per acre of spring wheat and winter wheat results in decrease of correlation with price.

The multiple coefficient of correlation between the prices of spring wheat at Chicago and the yield per acre of spring and winter wheat combined is a little lower, $R_{1.234} = 0.65$, but the relationship with yield per acre in the three preceding years was the same as for Minneapolis prices.

[4] The partial correlation between the world production plus carry-over, eliminating the influences of the changes in the yield of wheat in this country, was $r_{15'.2342'3'4'} = -0.42$. This partial correlation, and not the gross correlation $r_{15'} = -0.70$, measures the real correlation between the price of wheat and world production (excluding United States crop). The gross correlation between prices and the world production plus carry-over, $r_{15'} = -0.70$, is partially derived from association between the world production and the United States production.

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FARM ECONOMICS

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NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.
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No. 41 JANUARY, 1927

BUSINESS CONDITIONS:—PRE-WAR = 100

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	115	111	...
1914	103	101	100	96	99	81	...
1915	100	101	103	119	71	101	101
1916	116	119	129	152	71	130	114
1917	170	180	180	140	98	124	129
1918	186	206	198	130	121	121	160
1919	206	215	210	160	112	94	185
1920	217	214	230	144	153	109	222
1921	144	119	150	118	135	48	203
1922	134	124	152	146	92	77	197
1923	142	137	157	155	102	112	214
1924	128	140	152	166	81	85	218
1925	147	154	162	221	83	97	223
1926		142		247	88		
May, 1925	150	151	158	209	89	91	221
June	157	153	160	214	87	88	220
July	150	156	163	222	80	88	220
August	156	160	163	228	74	88	222
September	148	152	163	236	76	89	223
October	147	151	160	243	78	92	225
November	165	153	161	248	84	97	226
December	159	152	159	250	87	103	229
Jan., 1926	158	150	159	252	99	106	229
February	156	150	158	255	100	98	225
March	158	145	154	239	97	103	229
April	171	146	154	232	96	106	227
May	176	145	155	233	93	105	226
June	176	146	155	242	87	104	228
July	163	143	154	249	81	104	227
August	150	140	152	256	79	102	227
September	148	140	154	254	78	100	231
October	140	134	153	246	81	99	231
November	150	135	151	250	85	102	230
December		133		256	87		

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[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

During December, there was little change in interest rates, wholesale prices or industrial stocks. Money is cheap, only 87 per cent of prewar, and industrial stocks were high 256 per cent of prewar. This is in bold contrast to the agricultural prices which are 133 per cent of prewar.

The year 1926, like 1925, has been such a prosperous year in the cities that it will be looked upon as one of the "banner periods" in American industry. Buildings, automobiles, electrical equipment, steel and many other industrial products were produced in unprecedented quantity. Wholesale prices were comparatively stable. Industrial stocks stimulated by cheap money, huge earnings, stock dividends, and the like, rose to unparalleled levels.

Rents are falling. A building shortage no longer exists. However, as long as prosperity continues, individuals and corporations will move into better and more up-to-date buildings, so that some demand for new building continues.

It is not logical to assume that this unprecedented activity will continue indefinitely at the present speed. However, there is apparently nothing on the immediate horizon to indicate that a severe or protracted depression in city industry is likely to occur this year.

Farm Prices in the United States

During the month of December, the index number of the prices of 10 farm products rose; 11, fell; and 2 were stationary. The most striking changes were in cotton and wool. The United States farm price of cotton fell from 11 cents to 10 cents and the index number declined from 91 to 82 per cent of prewar. Wool declined from 31.6 cents to 30.1 cents. The index number dropped from 184 to 174 per cent of prewar.

The salient feature of the price situation during the year 1926 was the slow, but gradual decline in the index number of the prices of farm products. The index number during the late summer of 1925 was 160. It declined gradually until it reached 152 in December 1926. During 1926, it declined from 150, in January to 133 in December.

A large part of the crops leave the farmers hands from September to January. The average prices for these months have been 16 points below prices last year. This drop in income is passed over lightly in urban thought but the drop in farm prices is more than equal to all the interest and taxes paid by American farmers. If there were no interest or taxes to pay, the prices this year would leave less net income than would the prices of last year, after paying interest and taxes.

During 1926, violent fluctuations occurred in the prices of individual farm products. The average prices of 14 farm products in 1926 was lower than in 1925, and only 7 were higher. The index number of the price of corn declined from 155 to 108; oats, 111 to 97; wheat, 172 to 154; barley, 115 to 90; buckwheat, 142 to 117; flaxseed, 145 to 123; beans, 174 to 140; cotton, 179 to 122; apples, 158 to 129; eggs, 156 to 146; and wool fell from 221 to 186 per cent of prewar. The index number of the prices of potatoes rose from 166 to 267; chickens, 177 to 190; milk cows, 118 to 133; calves, 130 to 140; and hogs rose from 152 to 163 per cent of prewar.

Farm Prices in New York State

During the month of December the prices of 7 products rose, 12 fell and 2 were stationary. During the calendar year, 1926, the most striking changes in the index numbers of the prices paid to New York farmers for farm products, was the advance in the price of potatoes from 151 to 290; milk cows, 137 to 162; chickens, 170 to 180; hay, 84 to 93 and the declines in the price of wheat from 166 to 151; buckwheat, 139 to 119; beans, 174 to 148; apples 152 to 131 and wool 210 to 176. Milk rose from 141 in November 1925 to 147 last November.

Wholesale Prices of Feeds

The price of a ton of a dairy ration rose from $35.55 in November to $37.13 in December. During December the prices of all the ingredients rose. Gluten failed to rise as much as usual at this season and the index number fell from 122 to 117. Gluten feed and cottonseed meal are unusually cheap. Ground oats, linseed oil meal and standard middlings are relatively expensive.

During the calendar year, 1926, feed was cheaper than at any time since 1921 and 1922. The price of a dairy ration fell from an average of $41.81 per ton in 1925 to $37.26 in 1926. Corn meal fell from an average price of $47.89 to $37.40 per ton; gluten, from $43.11 to $38.72; hominy $41.96 to $33.43; and cotton seed meal fell from $48.45 to $39.96. Ground oats and the wheat feeds were lower in 1926 than in 1925, but the declines were relatively small. Linseed oil meal was slightly higher in 1926 than in 1925. Fair farm prices for milk, eggs, and other livestock products and cheap feed during 1926 lightened somewhat the burden of the New York poultry and dairy farmer. However, based on past experiences it is not likely that feed will remain so cheap. Good prices for milk stimulate the production of milk. This stimulates the demand for feed and prices advance.

G. F. Warren and F. A. Pearson

Number of Workers on Farms

The number of persons in the family and hired labor employed on farms operated by crop reporters of the United States Department of Agriculture is shown in Table 1. Farms of crop reporters are larger than the average farms therefore the number of workers is larger. From October 1923 to October 1926, the number of workers on farms in the North Altantic States declined 15 percent. The decline in the United States has been less rapid. The more rapid decline in the North Atlantic States is probably due to the nearness to industrial centers and better alternative opportunities.

TABLE 1. NUMBER OF PERSONS INCLUDING FAMILY AND HIRED LABOR, EMPLOYED PER FARM ON FARMS OF CROP REPORTERS[1]

Date	United States	North Atlantic States
October 1923	4.12	3.43
October 1924	3.65	3.36
October 1925	3.89	3.26
October 1926	3.86	2.93

[1] Persons Employed on Farms of the United States. United States Department of Agriculture, Crops and Markets, Vol. 3, Supplement No. 10, page 308, October 1926.

G. F. Warren and F. A. Pearson

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Potatoes	Sweet Potatoes
	bu.	bu.	bu.	bu.	bu.	bu.	bu.	lb.	ton	bu.	bu.	bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.4
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.5
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	3.26	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	3.49	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	3.23	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	3.28	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	3.31	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	......	126.4	110.6
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	......	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	......	137.0	94.0

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Potatoes	Sweet pota
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	......	267	178
1926												
January	120	104	181	97	121	139	145	140	113	......	352	190
February	115	99	174	88	114	127	157	145	108	......	344	195
March	110	97	164	87	116	117	148	133	108	......	337	196
April	106	97	160	85	114	120	150	134	106	......	397	194
May	104	96	158	85	116	117	146	127	107	......	352	197
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165
October	106	100	139	90	119	118	127	97	113	......	183	130
November	104	103	140	93	117	121	133	91	114	......	236	116
December	110	106	143	93	117	127	134	82	109	......	226	130

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
	bu.	head	lb.	doz.	lb.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
January	146	75	20.9	36.3	44 3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.7	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	159
September	125	56	180	163	166	134	121	143	163	201	188	156
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1926										
January	94	51	169	77	88	3.66	14.30	244	136	117
February	95	50	173	76	87	3.78	13.90	245	128	127
March	90	50	163	77	85	3.60	14.20	245	129	126
April	90	51	158	74	85	3.54	14.10	300	130	133
May	89	53	158	76	89	3.60	14.50	290	124	133
June	88	50	157	77	94	3.60	15.00	225	135	133
July	88	52	149	72	97	3.48	15.30	170	140	129
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
January	131	113	171	103	124	156	94	381	168	68
February	134	106	173	101	121	162	91	355	147	73
March	127	106	163	100	120	156	91	360	143	72
April	127	104	158	96	116	155	91	435	126	73
May	122	106	158	96	119	153	92	403	110	75
June	117	98	154	96	122	154	92	321	138	74
July	116	102	148	92	115	144	96	246	159	74
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1 82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40		48		90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
January	25.6	46	46.2	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	26.9	38	40.5	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	26.8	33	36.8	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	28.5	31	35.3	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	28.4	29	35.8	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	28.1	30	36.9	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	28.0	32	40.0	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61		52		95.00	12.00	5.60	5.60	11.80	37	12.10

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	541
1926	180	143		155		162	142	108	139	192	176	161
1926												
January	188	121	116	150	139	154	143	112	141	199	195	157
February	192	119	119	148	141	155	146	121	154	200	191	160
March	189	118	142	155	147	150	144	119	136	190	186	157
April	193	148	157	157	162	159	152	121	132	176	176	159
May	191	153	157	159	184	165	140	103	148	188	175	158
June	185	150	151	164	193	162	146	113	134	202	170	170
July	184	145	147	167	175	165	141	103	139	187	167	168
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149		153		168	137	103	129	192	176	165

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat —3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
January	39.05	45.30	35.54	39.33	34.94	34.77	37.33	52.32	43.25	68.80	40.96	44.80
February	37.27	42.26	32.70	37.61	32.33	32.33	35.80	49.95	42.45	70.80	38.68	44.15
March	35.61	38.71	30.88	36.82	30.40	30.29	33.06	47.38	41.46	70.80	36.49	42.36
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	67.30	37.21	42.12
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	63.80	36.30	40.99
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	63.80	36.12	40.55
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	73.80	37.53	42.58
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
January	142	150	128	127	134	133	138	151	132	132	139	143
February	136	138	118	118	123	123	132	144	132	136	130	139
March	133	132	116	116	116	116	122	142	130	135	126	134
April	129	135	120	116	129	127	131	157	127	128	130	133
May	120	138	112	111	124	116	129	154	127	122	127	128
June	121	140	111	110	125	117	126	154	127	122	127	127
July	132	150	120	111	128	117	128	160	129	141	133	132
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133

THE COSTS OF PRODUCING MAPLE SYRUP IN NEW YORK AND VERMONT, 1921-1923[1]

The cost of producing a gallon of maple syrup in bulk during these three seasons averaged $1.45 and ranged from $.54 to $4.24. The items making up the cost of production are given in Table 1.

TABLE 1. AVERAGE COSTS OF PRODUCTION PER GALLON OF MAPLE SYRUP, IN BULK, NEW YORK AND VERMONT, 1921-1923.
(This study covers a total of 40,952.5 gallons)‡

Items of cost	Vermont			New York		New York & Vermont	
	1921	1922	1923	1922	1923	1921-1923	
						weighted average cost	Per cent of average cost
Human labor*	$ .56	$ .43	$ .45	$ .39	$ .44	$ .46	31.72
Horse labor	.16	.15	.16	.14	.16	.15	10.35
Fuel	.25	.08	.06	.22	.20	.17	11.72
Repairs to equipment	.01	——	——	.01	.02	.01	.69
Depreciation on equipment	.19	.16	.18	.18	.20	.18	12.42
Interest on equipment	.20	.21	.19	.17	.19	.19	13.10
Interest on sugarbush	.11	.33	.31	.17	.19	.21	14.48
Taxes	.04	.15	.12	.06	.06	.08	5.52
Total costs	1.52	1.51	1.47	1.34	1.46	1.45	100.00
Costs minus human labor	.96	1.08	1.02	.95	1.02	.99	68.28
Fixed costs**	.54	.85	.80	.58	.64	.66	45.52

‡This study included 60 farms in Vermont producing 11,700 gallons in 1921; 52 in Vermont producing 9,896 gallons, and 43 in New York producing 10,218.5 gallons in 1922; 34 in Vermont producing 4589 gallons, and 19 in New York producing 4189 gallons in 1923.

*Man, woman and child.

**Costs which must be met annually whether sugaring is engaged in or not; includes depreciation, interest and taxes.

The total cost averaged $1.45. Of this amount human labor represents 46 cents and other costs 99 cents. Of the other costs 66 cents, or two-thirds, were fixed costs, such as depreciation, interest and taxes.

Factors Influencing Costs

Apparently the factors which most affected the cost of producing maple syrup were: (1) the size of the orchard or sugarbush, (2) efficiency in use of labor, and (3) the yield of sugar per tree.

TABLE 2. RELATION OF SIZE OF ORCHARD OR SUGARBUSH TO COST OF PRODUCTION PER GALLON OF MAPLE SYRUP ON 43 NEW YORK FARMS, 1922‡

Range in number of trees	Number farms in each group	Average number of trees in group	Cost per gallon of syrup
449 or less	11	294	$1.62
450 to 699	12	541	1.49
700 to 999	13	791	1.42
Over 1000	7	1743	1.09*

‡The Cost of Producing Maple Syrup and Sugar on Forty-Three New York Farms, 1922. New York State College of Agriculture, 1922. (Mimeographed)

*The largest orchard included in Table 2 contained 3,000 trees and the operator produced syrup at $.54 per gallon.

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[1] The writer while on the staff of the College of Agriculture, University of Vermont, made the 1921 study in Vermont. The 1922 and 1923 studies in New York were made by the writer in cooperation with Professor H. Collingwood, of the Forestry Department, New York State College of Agriculture. Appreciation is due Mr. H. P. Young, College of Agriculture, University of Vermont, for the 1922 and 1923 Vermont data.

The larger the business, as expressed in the number of trees in the orchard or sugarbush, the lower the cost per gallon, (Table 2).

It takes almost as much time to get the sugar house and equipment ready for tapping 500 trees as for 1500. Many syrup makers have equipment capable of handling two or three times the quantity of syrup made annually. Items of interest, depreciation and taxes are almost as large for the small sugarbush as for the large one.

The studies in Vermont and New York for the other seasons show the same relationship as set forth in Table 2.

Efficiency in Use of Labor

In 1921 in Vermont, one operator produced 100 gallons of syrup with only 71 hours of human labor, while another operator used 416 hours for the same purpose. The accessibility of the orchard has an important influence on the labor required and may be the factor determining whether a profit or loss can be made. It is likely that some orchards are so difficult to work as to preclude any possibility of a profit. Such orchards may pay better if left for lumber. The relation between hours of labor and costs of production is shown in Table 3.

TABLE 3. RELATION OF HOURS OF HUMAN LABOR PER 100 GALLONS OF SYRUP TO COST PER GALLON ON FORTY-THREE NEW YORK FARMS, IN 1922.

Range in hours of human labor per 100 gallons of syrup	Number of records in group	Average number hours human labor per 100 gallons of syrup	Average cost per gallon of syrup
Below 140	12	122	$ .96
140 to 175	13	148	1.43
Over 176	18	230	1.70

One way of cutting labor costs is to have a sugarbush or orchard sufficiently large to keep the labor busy. In 1922 in New York, the average sugarbush contained 911 trees.

Production of Maple Sugar per Tree

For the eight years 1918 to 1925, inclusive, Vermont is credited with producing an average of 1.94 pounds of maple sugar per tree and New York 2.15 pounds per tree[2]. There were, however, wide variations in yields per tree in both states. During 1921, in Vermont, 18 farms averaged 1.2 pounds per tree, while 23 farms averaged 2.3 pounds per tree. In 1922, in New York, ten farms produced only 1. 65 pounds of sugar per tree, while sixteen farms averaged 3.55 pounds per tree. This study shows that the yield per tree has a

TABLE 4. RELATION OF YIELD OF SUGAR PER TREE TO COST OF PRODUCTION OF MAPLE SYRUP ON FORTY-THREE NEW YORK FARMS, IN 1922.

Range in yield of pounds of sugar per tree	Average yield pounds sugar per tree	Number of farms in group	Cost of producing a gallon of syrup
Less than 2 lbs.	1.65	10	$1.76
2 to 3 "	2.34	17	1.44
Over 3 "	3.55	16	1.12

[2] Yearbooks, United States Department of Agriculture, 1920, page 689; 1921, page 666; 1925, page 1010

very important influence on the cost of production, (Table 4). It is doubtful, however, whether the individual can do much to increase the production per tree beyond careful pruning and clearing of the sugarbush to insure a maximum of leaf surface exposed to sunlight and the hanging of an extra bucket or two if the run of sap warrants it.

Interpretation of Cost Figures

Depreciation and interest on equipment and interest and taxes on sugarbush comprise from 37 to 44 per cent of the cost of production annually. If a sugarmaker should decide not to engage in sugaring operations in any one year, he would still have at least interest and taxes to sustain, without any products to pay expenses.

Sugaring comes at a time of the year when it may be difficult to find enough profitable employment on the farm. On most New York and Vermont farms during the sugaring season, practically the only work done is that of taking care of livestock, and this work does not usually occupy the full day. In some sections, the tag-end of the sugaring season does interfere slightly with the spring plowing.

In Vermont and New York during the period 1921-1923, inclusive, on the average, it took 1.863 hours of human labor and .847 hours of horse labor to produce one gallon of syrup, (Table 5).

TABLE 5. AVERAGE NUMBER OF HOURS OF HUMAN AND HORSE LABOR USED IN PRODUCING ONE GALLON OF MAPLE SYRUP, NEW YORK AND VERMONT, 1921-1923

	Vermont			New York		Both States
Item	1921	1922	1923	1922	1923	1921-1923
Human labor	2.03	2.00	1.9	1.63	1.599	1.863
Horse labor	.998	.8	.7	.84	.716	.847

According to data gathered by the Bureau of Agricultural Economics, United States Department of Agriculture, the price received for maple syrup by Vermont and New York producers for the years 1921-1925, has ranged from $1.32 to $2.20 and averaged $1.90 to $1.93 per gallon. With an average cost of production (minus human labor), of $0.99, and allowing $0.15 per can for containers, it appears that the producers in Vermont and New York on the average have received $0.76 for their human labor or about $0.41 per hour. The returns per hour of human labor at varying prices per gallon are estimated in Table 6.

TABLE 6. ESTIMATED RETURNS PER HOUR OF HUMAN LABOR IN PRODUCING MAPLE SYRUP IN NEW YORK AND VERMONT, AT VARYING PRICES TO THE PRODUCER‡

Price paid producer per gallon of syrup in gallon container	Gross returns for human labor per gallon	Returns per hour of human labor*
$1.30	$0.16	$0.086
1.40	0.26	0.140**
1.50	0.36	0.193
1.60	0.46	0.247
1.70	0.56	0.301
1.80	0.66	0.354
1.90	0.76	0.408
2.00	0.86	0.462
2.25	1.11	0.596

‡Assuming the average cost of production (minus human labor) to be $0.99, and adding $0.15 as the estimated cost of a one-gallon tin container, the gross cost to producer (minus human labor) would be $1.14 per gallon.

*Assuming an average of 1.863 hours of human labor per gallon.

**The returns per hour of human labor would increase $0.0053676 for each increase of one cent in sales price per gallon.

Before deciding not to sugar in any given season, a farmer may well ask himself three questions: (1) What costs will have to be borne whether sugaring is carried on or not; (2) What other employment is available which will pay as well as sugaring; and (3) What farm operations will sugaring interfere with and how seriously.

M. P. Rasmussen

AGRICULTURAL RESOURCES AND TRENDS IN AGRICULTURAL PRODUCTION IN CANADA

The number of occupied farms in Canada practically doubled in the period from 1871 to 1921, while the acreage in occupied farms in 1921, was almost four times the acreage in 1871.

The acreage of wheat in 1924 was almost ten times the acreage in 1870, while the acreage of all other field crops had about trebled in the same period. (Table 1)

The numbers of livestock in Canada, while showing a substantial increase, have not increased in anything like the proportions shown by field crops.

The major part of all increases is to be attributed to the settling of the Provinces of Manitoba, Saskatchewan and Alberta, during the period from 1900 to 1920.

The increase in the average size of farms is due to the increase in the number of large grain farms in the west. The failure of the numbers of livestock to keep pace with the increased acreages of field crops is due to the type of farming in the newly settled areas, which for the most part consists of the production of field crops on an extensive scale.

A relatively small part of the estimated arable area is at present in occupied farms. It is probably true however that the phenomenal rate of development of the past two decades will not be continued, due to the fact that the better and more accessible lands have largely been taken up, and to the generally unfavorable conditions surrounding agriculture at the present time. A continued upward trend in production at a decreasing rate would seem probable.

F. F. Hill

TABLE 1. STATISTICS OF CANADIAN AGRICULTURE
(000 omitted)

	1891*	1901*	1911	1921	1924
Number of occupied farms	620	544	682	711	
Total acres in farms	60,288	63,335	108,969	140,888	
Rural population	3,296	3,319	3,922	4,425	
Total population	4,833	5,371	7,206	8,788	
Horses and mules		1,577	2,266	3,813	3,597
Milch cows		2,401	2,876	3,736	3,727
Other cattle		3,168	4,210	6,467	5,733
Sheep		2,510	2,389	3,675	2,685
Swine		2,253	2,712	3,904	5,069
Acres wheat‡	2,701	4,224	8,865	18,232	22,056
Acres "other" field crops‡	12,961	15,537	21,691	34,599	35,797

*The Provinces of Saskatchewan and Alberta were not created until 1905. The figures used for the years 1891 and 1901 are for the Northwest Territories which, from an agricultural viewpoint, were made up of what is now the Provinces of Saskatchewan and Alberta.

‡The acreage figures for field crops, are for the years preceding the ones in which the Census was taken

FARM ECONOMICS

Department of Agricultural Economics and Farm Management
NEW YORK STATE COLLEGE OF AGRICULTURE,
CORNELL UNIVERSITY, ITHACA, N. Y.
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No. 42 FEBRUARY, 1927

BUSINESS CONDITIONS:—PRE-WAR = 100

Year	Farm Prices		Wholesale prices of all commodities[2]	Prices of 70 industrial stocks[3]	Interest rates 4-6 mos. comm'l paper[4]	Pig iron production[5]	Weekly earnings N. Y. factory workers[6]
	New York[1]	United States[1]					
1913	97	99	102	96	115	111	...
1914	103	101	100	96	99	81	...
1915	100	101	103	119	71	101	101
1916	116	119	129	152	71	130	114
1917	170	180	180	140	98	124	129
1918	186	206	198	130	121	121	160
1919	206	215	210	160	112	94	185
1920	217	214	230	144	153	109	222
1921	144	119	150	118	135	48	203
1922	134	124	152	146	92	77	197
1923	142	137	157	155	102	112	214
1924	128	140	152	166	81	85	218
1925	147	154	162	221	83	97	223
1926	156	142	154	247	88	102	228
May, 1925	150	151	158	209	89	91	221
June	157	153	160	214	87	88	220
July	150	156	163	222	80	88	220
August	156	160	163	228	74	88	222
September	148	152	163	236	76	89	223
October	147	151	160	243	78	92	225
November	165	153	161	248	84	97	226
December	159	152	159	250	87	103	229
Jan., 1926	158	150	159	252	99	106	229
February	156	150	158	255	100	98	225
March	158	145	154	239	97	103	229
April	171	146	154	232	96	106	227
May	176	145	155	233	93	105	226
June	176	146	155	242	87	104	228
July	163	143	154	249	81	104	227
August	150	140	152	256	79	102	227
September	148	140	154	254	78	100	231
October	140	134	153	246	81	99	231
November	150	135	151	250	85	102	230
December	145	133	150	256	87	96	232

[1] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[2] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100. Data for the last month is estimated from Fisher's index number. Corrected index will be given in the next issue.

[3] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[4] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

[5] Normal = 100.

[6] Data furnished by the Department of Labor of New York State, June 1914 = 100.

BUSINESS CONDITIONS

Industrial output in 1926 was very large. With the exception of the textile industry, and one or two others, city industries enjoyed prosperity. During the latter part of the year, there was a sharp curtailment in the production of many of the basic commodities. There was some unemployment in the latter part of the year.

The index numbers of wholesale prices declined from 163 in September 1925, to 150 in December 1926, or 13 points in 15 months. This decline was due to a general recession of prices but particularly to cotton.

Altho interest rates were slightly higher in 1926 than in 1925, they have been comparatively stable and there continues to be an abundant supply of credit.

The present outlook is for less active business in the coming year. In a number of industries, particularly in building, production has gone so far as to make investors cautious.

Farm Prices

Prices of most farm products, particularly crops, are somewhat lower than last year. Prices paid to farmers for food products in December averaged 9 points below December a year ago.

In January 1926, cotton was selling at 40 per cent above prewar prices, but in December it was selling at 18 per cent below prewar prices.

For the year 1926, eggs were 10 points lower than in the previous year. Hogs were 11 points higher, and beef cattle 4 points higher than in the previous year.

The most striking change in prices in New York State is the improvement in the price of milk and cows. Prices of eggs, potatoes and apples are lower than last year. Hay continues to be a drug on the market.

For the coming year, prices of milk, beef cattle, and hogs promise to be favorable. Feed has been very cheap and promise to continue so, at least until next summer. The present indication is for an increased planting of corn in the south. Since the number of cattle and hogs is low, cheap feed may be expected to continue, provided the weather is favorable for crops. It is hardly to be expected that feed will continue to be as cheap as it now is, but at present there are no facts that suggest that feed will be expensive.

As was the case when deflation occurred following the Civil War, eggs fell in price less than the grain crops. This resulted in an increase of 19 per cent in egg production from 1919 to 1924, while population increased only 8 per cent. This is having some effect on prices.

The outlook for the producers of timothy hay continues to be bad, with no reason for improvement to be expected, except in occasional years when the weather is very unfavorable. There is a good demand for alfalfa hay, which promises to continue.

Owing to several years of heavy losses, the potato acreage was greatly reduced. The weather for the past two years has been unfavorable. Prices therefore have been good. These prices may result in overplanting. Over a series of years cabbage and potatoes have been profitable crops on New York farms, but the variations in prices from year to year have always been great and are now more decided than formerly.

Elsewhere in this issue there is an extended discussion of the agricultural depression and of related topics. The seven years of despression have resulted in a material decrease in food production. In all this period, food has been very cheap compared with other items in the cost of living. It is gradually approaching its normal relation to other things. Thus far, the rise in retail prices of food has not caused an increase in the cost of living because other items have declined. The average cost of living is still much above the food index.

If the general price level should remain where it is, the adjustments that are being made would probably end the agricultural depression in a few years. If the general price level should continue to decline as there is danger that it will do (FARM ECONOMICS, pp. 81 and 230), further adjustment will have to be made. In that event, distributing charges will again lag behind prices and farm prices will be low compared with retail prices, unless there is a distinct shortage of farm products.

Farm Prices in Different States

Very decided changes in successive years are shown in the index number of farm prices for various states. In the past six years, prices have averaged lowest in the western states. In the eastern states, prices have been very low, but not as low as in the west.

The cotton states have followed a different course from the northern states. In four of the six years, cotton has been higher than most farm products. Now, it is lower than most other farm products.

In December, prices in Alabama and Georgia were below the prewar level. Those for Oregon and Utah were 28 per cent above prewar. Those in Missouri, North Dakota, and South Dakota were 40 per cent above prewar.

Live Stock on Farms

The number of horses on farms decreased 3.5 per cent last year. Mules remained stationary. Estimates made by the writers of the number of horses two years old and older for each year up to 1930, are given in FARM ECONOMICS, No. 31, p. 383. The price of horses declined still further during the year.

Hogs increased one per cent. Estimates of the United States Department of Agriculture as to the breeding of sows for the spring pig crop indicate that only a little increase in hogs is likely to occur this spring. The relatively high hog prices will doubtless result in an overproduction of hogs, but apparently this is not likely to occur before 1928.

The number of sheep increased 5 per cent last year. The number is now higher than at any previous time since 1919.

The total number of cattle decreased 3 per cent. Cattle rose in price, as would be expected from the beef cycle. Presumably they will continue to rise in price for several years, because of the shortage brought about by a number of years of very low prices.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet Pota-toes
	bu.	bu.	bu.	bu.	bu.	bu.	bu.	lb.	ton	bu.	bu.	bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.4
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.5
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
January	69.6	40.0	158.1	59.5	85.7	224.5	3.26	17.2	13.31	......	220.5	149.3
February	68.5	39.2	155.5	56.3	80.9	216.4	3.49	17.7	12.93	......	226.0	162.4
March	66.6	38.8	146.0	54.6	81.7	202.9	3.23	16.5	12.97	......	225.6	171.4
April	65.7	39.4	142.2	54.8	82.5	207.0	3.28	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	3.31	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	......	126.4	110.6
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	......	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	......	137.0	94.0

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	128
1923	124	104	112	91	130	140	177	215	103	166	121	110
1924	141	119	126	110	141	129	158	216	111	151	125	159
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	......	267	176
1926												
January	120	104	181	97	121	139	145	140	113	......	352	190
February	115	99	174	88	114	127	157	145	108	......	344	195
March	110	97	164	87	116	117	148	133	108	......	337	196
April	106	97	160	85	114	120	150	134	106	......	397	194
May	104	96	158	85	116	117	146	127	107	......	352	197
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165
October	106	100	139	90	119	118	127	97	113	......	183	130
November	104	103	140	93	117	121	133	91	114	......	236	116
December	110	106	143	93	117	127	134	82	109	......	226	130

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs. cwt
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
January	146	75	20.9	36.3	44.3	62.06	6.31	9.44	7.95	12.79	38.9	10.99
February	146	80	21.5	28.9	42.7	63.41	6.42	9.86	8.20	12.02	37.7	11.76
March	140	82	21.9	24.1	41.7	63.17	6.65	9.75	7.66	11.56	34.7	11.65
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
January	151	54	195	123	156	131	125	139	173	221	210	156
February	142	56	197	110	157	133	126	146	180	202	204	165
March	129	57	196	112	161	129	126	141	160	186	186	157
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	159
September	125	56	180	163	166	134	121	143	163	201	188	156
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1926										
January	94	51	169	77	88	3.66	14.30	244	136	117
February	95	50	173	76	87	3.78	13.90	245	128	127
March	90	50	163	77	85	3.60	14.20	245	129	126
April	90	51	158	74	85	3.54	14.10	300	130	133
May	89	53	158	76	89	3.60	14.50	290	124	133
June	88	50	157	77	94	3.60	15.00	225	135	133
July	88	52	149	72	97	3.48	15.30	170	140	129
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	90
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
January	131	113	171	103	124	156	94	381	168	68
February	134	106	173	101	121	162	91	355	147	73
March	127	106	163	100	120	156	91	360	143	72
April	127	104	158	96	116	155	91	435	126	73
May	122	106	158	96	119	153	92	403	110	75
June	117	98	154	96	122	154	92	321	138	74
July	116	102	148	92	115	144	96	246	159	74
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48		90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
January	25.6	46	46.2	51	2.64	82.95	12.10	5.90	5.90	12.80	43	11.70
February	26.9	38	40.5	49	2.56	84.10	12.20	6.40	6.50	12.80	42	12.00
March	26.8	33	36.8	48	2.47	84.00	12.00	6.20	5.80	12.30	39	12.20
April	28.5	31	35.3	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	28.4	29	35.8	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	28.1	30	36.9	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	28.0	32	40.0	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61	39.7	52		95.00	12.00	5.60	5.60	11.80	37	12.10

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155		162	142	108	139	192	176	161
1926												
January	188	121	116	150	139	154	143	112	141	199	195	157
February	192	119	119	148	141	155	146	121	154	200	191	160
March	189	118	142	155	147	150	144	119	136	190	186	157
April	193	148	157	157	162	159	152	121	132	176	176	159
May	191	153	157	159	184	165	140	103	148	188	175	158
June	185	150	151	164	193	162	146	113	134	202	170	170
July	184	145	147	167	175	165	141	103	139	187	167	168
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149	121	153		168	137	103	129	192	176	165

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat −3c for freight).

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS CORRESPONDING MONTH 1910-14 = 100

Year	Connecticut	Vermont	Pennsylvania*	Ohio*	Iowa	Missouri	South Dakota	North Dakota	Utah*	Oregon	Kentucky*	Georgia	Alabama*	Texas
1910	94		99	103	102	101		108	108	107	103	110	110	108
1911	95		94	89	87	88		101	91	97	94	103	102	98
1912	101		101	101	99	101		102	96	96	98	86	91	92
1913	105		100	103	104	106		89	101	98	102	98	101	100
1914	103	101	103	105	108	110		98	103	102	108	91	96	95
1915	101	100	102	104	103	108		123	109	106	99	80	85	93
1916	109	115	115	120	120	120		126	123	114	112	117	116	120
1917	145	156	170	181	181	178		199	168	168	159	184	175	177
1918	182	196	193	201	207	200		221	188	191	207	242	230	220
1919	197	215	206	216	219	208	225	237	193	198	211	238	230	222
1920	213	232	217	210	189	188	192	240	198	195	216	257	244	217
1921	159	160	140	130	104	114	100	125	107	119	167	105	109	105
1922	144	147	127	127	111	112	106	111	106	119	157	147	144	132
1923	154	168	138	133	115	112	109	105	127	119	158	202	189	167
1924	142	151	136	134	122	116	120	122	129	121	154	202	198	166
1925	152	167	154	157	147	143	149	150	145	147	160	170	166	156
1926	153	177	160	155	140	141	147	146	132	136	155	129	119	126
1923														
Jan.	147		132	133	120	117	110	102	122	125	164	190	179	161
Feb.	149		132	134	114	114	110	108	131	120	163	200	186	164
Mar.	155		132	133	112	114	112	108	132	123	158	215	195	173
Apr.	148		132	134	116	114	117	113	124	119	157	211	193	175
May	158		140	139	116	113	112	117	129	123	155	191	186	165
June	161		144	140	114	109	107	109	127	127	152	190	184	158
July	141		141	131	112	106	111	102	128	127	155	191	176	163
Aug.	160		143	132	107	105	106	97	124	116	156	181	174	162
Sept.	170		144	129	119	115	109	99	128	115	157	190	184	153
Oct.	155		142	129	118	109	108	105	128	114	157	210	194	166
Nov.	160		141	130	113	113	105	104	128	116	159	221	204	177
Dec.	154		138	129	114	110	99	103	127	109	159	233	217	186
1924														
Jan.	151		131	128	115	114	106	111	122	111	161	244	221	191
Feb.	140		133	130	111	112	109	113	123	110	160	238	217	185
Mar.	143		133	128	110	108	109	117	128	108	153	211	194	171
Apr.	125		132	130	110	108	109	113	124	106	157	220	200	167
May	139		130	130	113	107	108	111	124	109	159	212	200	164
June	144		136	127	114	105	111	110	124	113	149	201	197	165
July	135		136	125	117	109	122	125	130	119	143	199	192	166
Aug.	145		142	133	131	121	132	129	127	133	150	203	194	175
Sept.	154		137	137	131	122	131	118	131	130	148	170	163	148
Oct.	143		137	145	141	130	128	136	131	140	151	179	170	153
Nov.	138		144	144	135	127	132	139	140	142	155	174	165	155
Dec.	141		146	148	139	129	140	147	143	140	156	171	167	154
1925														
Jan.	145		146	153	149	144	149	167	145	155	160	175	169	158
Feb.	146		146	154	145	140	153	166	148	152	161	176	170	160
Mar.	138		148	157	155	146	160	163	156	152	159	186	180	170
Apr.	145		149	157	147	140	153	138	144	144	160	177	175	159
May	156		152	159	146	142	153	148	144	146	159	172	174	159
June	154		158	162	151	142	150	150	144	144	152	167	170	142
July	147		163	166	159	146	162	146	145	148	155	174	170	162
Aug.	159		162	159	155	149	156	153	138	151	160	177	169	166
Sept.	163		152	154	143	144	141	138	146	140	158	170	165	151
Oct.	157		151	150	142	141	138	134	140	142	160	167	159	162
Nov.	153		160	156	144	145	138	140	147	149	163	148	146	142
Dec.	154		160	157	146	142	139	157	149	146	162	146	143	141
1926														
Jan.	155	171	157	155	144	143	143	162	144	146	161	150	144	138
Feb.	157	178	160	155	144	143	143	152	141	146	161	150	143	142
Mar.	159	174	159	153	137	142	145	148	138	137	155	144	143	138
Apr.	162	180	165	155	135	140	149	147	133	136	158	141	142	134
May	181	190	169	158	141	145	159	148	135	136	156	137	143	130
June	166	186	168	158	144	145	160	150	129	135	156	135	140	129
July	151	185	163	156	144	142	157	155	130	133	152	131	136	126
Aug.	141	173	152	146	137	133	142	146	120	133	153	136	140	131
Sept.	156	171	156	147	134	140	140	132	127	131	151	135	135	133
Oct.	143	165	154	151	142	142	145	136	127	136	154	99	105	108
Nov.	132	172	164	154	145	141	140	140	131	137	155	95	100	104
Dec.	133	174	157	155	149	139	140	140	128	128	155	89	99	100

* Index numbers for Connecticut were prepared by A. E. Waugh, Connecticut Agricultural College, Storrs, Conn.; those for Vermont by H. P. Young, Vermont Agricultural Experiment Station, Burlington, Vt.; those for Pennsylvania by F. P. Weaver, Department of Agricultural Economics, State College, Pa.; those for Ohio by J. I. Falconer, Department of Rural Economics, Ohio State University, Columbus, Ohio; those for Iowa by K. Bjorka, Iowa State College of Agriculture, Ames, Iowa; those for Missouri by—D. R. G. Cowan, Department of Rural Life, Missouri Agricultural Experiment Station, Columbia, Mo.; those for Utah by J. A. Ellsworth; those for Kentucky by C. U. Jett, City National Bank, Paducah, Ky.; and those for Alabama by J. D. Pope, Polytechnic Institute, Auburn, Ala.

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59 86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
February	37.27	42.26	32.70	37.61	32.33	32.33	35.80	49.95	42.45	70.80	38.68	44.15
March	35.61	38.71	30.88	36.82	30.40	30.29	33.06	47.38	41.46	70.80	36.49	42.36
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	67.30	37.21	42.12
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	63.80	36.30	40.99
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	63.80	36.12	40.55
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	73.80	37.53	42.58
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96
1927												
January	37.94	37.25	35.30	41.79	34.30	35.70	35.60	50.84	38.70	75.80	38.12	

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
February	136	138	118	118	123	123	132	144	132	136	130	139
March	133	132	116	116	116	116	122	142	130	135	126	134
April	129	135	120	116	129	127	131	157	127	128	130	133
May	120	138	112	111	124	116	129	154	127	122	127	128
June	121	140	111	110	125	117	126	154	127	122	127	127
July	132	150	120	111	128	117	128	160	129	141	133	132
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133
1927												
January	138	123	127	135	132	137	132	147	118	146	129	

The number of dairy cows continued to decline, but there was an increase in the number of heifers being raised. The decline in the number of cows was due to the failure to raise the usual number of heifers, following the unfavorable milk prices in 1923.

The number of dairy cows in New York declined three per cent during the year. The number of heifers, one to two years old increased six per cent. The steady decline in cows since 1920 has been due to low profits and consequent reduction in the number of heifers being raised. A year ago there was only one heifer for each 8 cows in New York State. In the year previous there was only one for 7.6 cows. There is, therefore, a shortage of young cows. The better prices for milk and cows have resulted in an increase in the number of calves now being raised. The shortage of cows will probably continue for at least two to three years.

TABLE 1. LIVESTOCK ON FARMS ON JANUARY 1, AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	Horses and colts	Mules and mule colts	Sheep and lambs	Hogs and pigs
1910	20,000,000	4,200,000	52,000,000	58,000,000
1911	20,000,000	4,300,000	54,000,000	66,000,000
1912	21,000,000	4,400,000	52,000,000	65,000,000
1913	21,000,000	4,400,000	51,000,000	61,000,000
1914	21,000,000	4,400,000	50,000,000	59,000,000
1915	21,000,000	4,500,000	50,000,000	65,000,000
1916	21,000,000	4,600,000	49,000,000	68,000,000
1917	21,000,000	4,700,000	48,000,000	68,000,000
1918	22,000,000	4,900,000	49,000,000	71,000,000
1919	21,000,000	5,000,000	49,000,000	75,000,000
1920	20,000,000	5,400,000	39,000,000	59,000,000
1921	19,000,000	5,500,000	37,000,000	56,000,000
1922	19,000,000	5,500,000	36,000,000	58,000,000
1923	19,000,000	5,500,000	37,000,000	68,000,000
1924	18,000,000	5,400,000	38,000,000	66,000,000
1925	16,500,000	5,700,000	38,100,000	55,600,000
1926	15,800,000	5,700,000	39,900,000	52,100,000
1927	15,300,000	5,700,000	41,900,000	52,500,000

TABLE 2. DAIRY CATTLE ON FARMS ON JANUARY 1, AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	United States			New York		
	Cows and heifers two years old and older	Heifers one to two years old	Number of cows per heifers	Cows and heifers two years old and older	Heifers one to two years old	Number of cows per heifer
1920	21,427,000	4,418,000	4.8	1,499,000	253,000	5.9
1921	21,408,000	4,155,000	5.2	1,477,000	202,000	7.3
1922	21,788,000	4,023,000	5.4	1,462,000	193,000	7.6
1923	22,063,000	4,147,000	5.3	1,449,000	206,000	7.0
1924	22,255,000	4,137,000	5.4	1,422,000	191,000	7.4
1925	22,481,000	4,195,000	5.4	1,383,000	182,000	7.6
1926	22,148,000	3,909,000	5.7	1,362,000	168,000	8.1
1927	21,824,000	4,080,000	5.3	1,318,000	178,000	7.4

G. F. Warren and F. A. Pearson

THE AGRICULTURAL DEPRESSION

The effects of inflation and deflation on relationships of debators and creditors are well known. Inflation makes debts and interest easy to pay and is a burden on those who live on savings. Deflation makes debts hard to pay. It takes property from the debtor and gives it to the creditor.

In primitive society, debts were the most serious cause of trouble when inflation or deflation occurred, but with present day civilization, even more serious effects of inflation and deflation are caused by the direct and indirect results of the fact that when prices rise, wages rise less rapidly, and that when prices fall, wages fall less rapidly. The rapidly growing division of labor, the increasing amount of business done by governments, the increasing distances from producers to consumers, the increasing specialization in agriculture, all combine to make this the most important effect of inflation and deflation. Since America has gone further than other countries in these respects, the effects of unstable prices are more serious here than elsewhere.

Agricultural Depression Not Universal

The statement is commonly made that the agricultural depression is world wide. This is far from true. It is not even nation wide. Farmers in North Carolina have been prosperous. They raise cotton and tobacco and have had good yields and good prices in four of the past seven years. Those farmers who retail their products are in general prosperous. Regions that are near the consumer, such as southern New England, are much more prosperous than regions that are far from market. The agricultural depression is much more serious in western New York than in southeastern New York. English farmers are nearer to consumers than are American farmers and English wages are not as much above prewar as are American wages. The depression is much less serious in England than in the United States. The English depression began nine months after the depression started in the United States.

Farms on which cost accounts were kept in Denmark, made an average of 6.4 per cent on their investment, for the five years, 1920-24. At the same time, American farms were very unprofitable. In 1925, the Danish farmer made nine-tenths of one per cent; but 1925 was not so bad as the preceeding 5 years for American farmers. The reason for the differences were that Denmark deflated in 1925. French farmers are well enough off so that the French government, by various means, controls prices so that food will not be too high. If they deflate, French farmers will have an agricultural depression. If the franc is stabilzed at its present value there will be no such serious agricultural depression as occurred here.

Causes of the Depression

Over production, speculation in land, debts, taxes, European conditions, price disparity brought about by financial inflation and deflation, and inumerable other things have been blamed for the depression.

Over-Production

The major effect of inflation and deflation on American agriculture has been to cause a disparity between farm and retail prices, but the influences on production and on debts have also been important.

The high prices during inflation caused farmers to attempt to increase production, but increased production follows only slowly on effort. The results of these efforts caused relatively high production in the years 1920-23.

The substitution of gasoline engines for horses required some readjustment in agriculture. This could not have caused an agricultural depression, but has increased the severity of the depression. The reduction in horses and mules has released crop land for the growth of food for human beings at about one-half the rate at which population has increased. The total reduction in the last ten years has released nearly six per cent of the crop area of the nation, but population has increased by more than twice this percentage.[1]

TABLE 1. PRODUCTION OF GRAIN IN THE UNITED STATES*
(Pounds of corn, oats, wheat, barley, rye, and buckwheat†)

Year	Acres (000 omitted)	Pounds (000,000 omitted	Pounds per acre	Pounds per capita	Year	Acres (000 omitted)	Pounds (000,000 omitted)	Pounds per acre	Pounds per capita
1866	61,682	69,110	1,120	1,948	1897	169,591	189,699	1,119	2,650
1867	64,972	68,249	1,050	1,885	1898	175,199	207,208	1,183	2,841
1868	66,715	75,679	1,134	2,047	1899	213,374	213,157	1,156	2,868
1869	69,458	77.271	1,112	2,047	1900	184,101	212,298	1,153	2,794
1870	69,254	85,945	1,241	2,229	1901	184,630	170,634	924	2,199
1871	64,999	80,116	1,233	2,025	1902	183,777	233,884	1,273	2,952
1872	68,280	87,401	1,280	2,153	1903	181,671	207,615	1,143	2,568
1873	74,112	80,496	1,086	1,931	1904	181,391	219,516	1,210	2,662
1874	80,052	76,573	957	1,789	1905	184,265	242,362	1,315	2,882
1875	86,864	106,094	1,221	2,414	1906	184.577	252,737	1,369	2,949
1876	93,920	102,987	1,097	2,282	1907	183,674	215,647	1,174	2,470
1877	93,205	113,424	1,217	2,447	1908	185,901	219,975	1,183	2,473
1878	100,956	120,245	1,191	2,526	1909	188,577	242,536	1,286	2,680
1879	118,632	150,898	1,272	3,088	1910	198,052	248.844	1,256	2,692
1880	120,927	143,706	1,188	2,865	1911	203,718	218,946	1,075	2,333
1881	123,389	106,830	866	2,082	1912	201,302	277,853	1,380	2,917
1882	126,569	140,985	1,114	2,686	1913	205,264	230,265	1,122	2,371
1883	130,634	134,753	1,032	2,510	1914	206,316	252,216	1,222	2,548
1884	136,293	155,067	1,138	2,824	1915	218,708	293,560	1,342	2,924
1885	135,875	154,619	1,138	2,754	1916	211,893	234,033	1,104	2,299
1886	141,859	145,464	1,025	2,534	1917	219,546	275,278	1,254	2,667
1887	141,822	134,439	948	2,291	1918	225,155	262,864	1,167	2,518
1888	146,281	163,960	1,121	2,734	1919	226,950	265,404	1,169	2,527
1889	140,219	169,563	1,209	2,767	1920	218,043	290,650	1,333	2,731
1890	138,993	128,386	924	2,040	1921	225,553	266,814	1,183	2,462
1891	146,732	184,072	1,254	2,883	1922	220,706	268,925	1,218	2,451
1892	147,227	156,557	1,063	2,405	1923	218,709	274,323	1,254	2,461
1893	147,726	149,150	1,010	2,248	1924	207,328	242,297	1,169	2,136
1894	144,216	134,972	936	1,996	1925	211,295	265,205	1,255	2,305
1895	163,052	199,984	1,227	2,901	1926	204,714	250,218	1,222	2,148
1896	167,272	204,973	1,225	2,918					

* Warren, G. F., Prices on Farm Products in the United States. United States Department of Agriculture, Bulletin 999, p. 6. August, 26, 1921.

† Grain as reported by the Bureau of Crop Estimates, converted to pounds by multiplying corn and rye by 56, wheat by 60, oats by 32, barley and buckwheat by 48.

The pounds of six grain crops, corn, oats, wheat, barley, rye, and buckwheat, produced in the United States, are given in Table 1. These are the basic food materials. Together with hay and pasture, they supply not only the major vegetable foods, but supply the bases for livestock production. From 1910-14, the total production of grain in the United States averaged 246 billion pounds. In 1920-22, it averaged 275 billion pounds.

Since the beginning of the agricultural depression, production has declined as rapidly as farmers have been able to readjust to prices. The production in the last three years averaged 253 billion pounds, a reduction of 8 per cent. In this period, population increased about 6 per cent. The low production of the last three years does not appear to be due to the weather. From the rainfall records, corn yields would have been expected to be above normal.

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[1] FARM ECONOMICS No. 31, p. 385, February 6, 1926.

The grain production per capita in 1910-14 averaged 2571 pounds. For the three years 1920-22, the production per capita averaged 2547 pounds. The production per capita in the last three years has averaged 2196 pounds. This is lower than for any previous three year period in 50 years.

Because of the reduction in the number of horses and the reduced use of grain for alcoholic drinks, less grain is now required than formerly.

On January 1, 1927, the number of horses and mules on farms and in cities was about 25 per cent below the number kept in 1910-14. About 15 billion pounds of grain produced in 1910-14 was fed to these horses and mules.[2] Horses, mules and hay were at that time more valuable than at present. It may be that more grain was used per horse than at present. About 8 billion pounds of grain were then used for alcoholic drinks. If the total of 23 billion pounds is deducted from the 1910-14 yields, the remaining production per capita would have averaged 2330 pounds. When these allowances are made, the grain production for the first three years of the agricultural depression appears to have been about 5 per cent above the prewar average per capita, and production for the last three years appears to be about 6 per cent below the prewar average per capita. (Table 2)

TABLE 2. PRODUCTION OF GRAIN PER CAPITA

Period	Average population	Average grain production (billions of pounds)	Grain used for alcoholic drinks (billions of pounds)	Grain used for horses not now kept (billions of pounds)	Grain production less deductions (billions of pounds)	Grain per capita above deductions	Percentage of 1910-14
1910-14	95,519,000	245.6	8	15	222.6	2330	100
1920-22	108,178,000	275.5		12	263.5	2436	105
1924-26	115,004,000	252.6			252.6	2196	94

Expansion and Contraction of Agriculture

The expansion in agriculture that took place from 1910 to 1920, is shown by the following percentage increases:

Population	15
Number of farms	1
Acres of land in farms	9
Acres of food and feed crops	20
Acres of cotton, tobacco, and flax	4
Acres of all crops	18
Crop yields per acre (1908 to 1912 compared with 1918 to 1922, omitting cotton[3]	4
Number of cattle	12
Number of hogs	13

The long period of agricultural depression, which reached its lowest point in 1896, resulted in such a curtailment of agriculture as to bring on a period of "high-cost-of-living." The rising prices stimulated agricultural production. Financial inflation in the war period further stimulated production. In the 10 years 1910-1920, population increased 15 per cent, but the acres of food and feed crops increased 20 per cent, and yields per acre increased 4 per cent, production therefore increased 25 per cent.

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[2] Up to January 1, 1927, the reduction in the number of horses and mules was about 25 per cent. Before the reduction took place, 24 per cent of the corn crop, 57 per cent of the oat crop, 10 per cent of the barley crop, and 48 per cent of the hay crop were fed to horses and mules (FARM ECONOMICS No. 31, p. 385, February 1926). The reduction in the number of horses and mules, therefore, would release about 6 per cent of the corn crop, 14 per cent of the oat crop, 3 per cent of the barley crop, and 12 per cent of the hay crop.

[3] Yields per acre of corn, oats, wheat, barley, rye, buckwheat, potatoes, and hay.

TABLE 3. POPULATION, FARMS, AND LIVESTOCK

	1910	1920	1925	1920 when 1910 = 100	1925 when 1920 = 100	1925 when 1910 = 100
Population	92,422,000	106,422,000	115,058,000	115	108	124
Number of farms	6,361,502	6,448,343	6,371,617	101	99	100
Land in farms	878,798,325	955,883,715	924,889,380	109	97	105
All cattle	59,500,000*	66,652,559	61,571,752	112	92	103
Dairy cows		19,675,297	17,700,851		90	
Hogs	52,500,000*	59,346,409	51,842,428	113	87	99
Horses	19,550,000*	19,767,161	16,535,759	101	84	85
Mules	4,170,000*	5,432,391	5,730,608	130	105	137

*Estimate for January first 1910 published in 1920 census Vol. 5 p. 532, 550, and 587.

TABLE 4. ACRES OF CROPS IN THE UNITED STATES

(Averages for 1924 are preliminary figures)

	1909	1919	1924	1919 when 1909 = 100	1924 when 1919 = 100	1924 when 1909 = 100
Corn, sorghum, etc.	104,052,250*	117,750,959*	106,493,807*	113	90	102
Hay	68,227,310	72,779,888	74,440,874	107	102	109
Wheat	44,262,592	73,099,421	50,882,142	165	70	115
Oats	35,159,441	38,568,080*k*	37,845,615	110	98	108
Barley	7,698,706	6,472,888	6,711,850	84	104	87
Rye	2,195,561	7,679,005	3,755,468	350	49	171
Buckwheat	878,048	742,627	731,147	85	98	83
Velvet beans		1,142,562	1,491,356		131	
Rice	610,175	911,272	741,114	149	81	121
Beans	802,991	1,161,682	1,724,890	145	148	215
Peanuts	869,887	1,125,100	1,365,992	129	121	157
Sorghum sirup	326,352	482,043	263,162	148	55	81
Potatoes	3,668,855	3,251,703	2,943,196	89	91	80
Sweet potatoes	641,255	803,727	474,675	125	59	74
Sugar beets	360,433	636,434	749,091	177	118	208
Sugar cane	476,849	372,938	331,955	78	89	70
Apples, bearing	3,091,000	2,355,000	2,131,000	76	90	69
Apples, not bearing	1,382,000	760,000	765,000	55	101	55
Peaches	1,255,000	800,000	843,000	64	105	67
Pears	342,000	296,000	362,000	87	122	106
Plums and prunes	278,000	273,000	362,000	98	133	130
Grapes	411,000	375,000	565,000	91	151	137
Oranges	172,000	239,000	376,000	139	157	219
Grape fruit	19,000	44,000	74,000	232	168	389
Lemons	16,000	43,000	43,000	269	100	269
Strawberries	143,045	119,395	203,203	83	170	142
Cabbages	125,998	123,994	166,972	98	135	133
Cantaloupes and Muskmelons	52,419	78,436	121,947	150	155	233
Lettuce	5,489	21,544	70,205	392	326	1279
Onions	47,625	64,338	87,276	135	136	183
Sweet corn	178,224	271,584	402,801	152	148	226
Tomatoes	207,379	316,399	421,082	153	133	203
Watermelons	137,005	159,088	372,514	116	234	272
Total food and feed crops	278,093,889	333,320,107	298,313,334	120	89	107
Flax	2,083,142	1,260,687	3,440,297	61	273	165
Tobacco	1,294,911	1,864,080	1,538,991	144	83	119
Cotton	32,043,838	33,740,106	39,204,319	105	116	122
Total	35,421,891	36,864,873	44,183,607	104	120	125
Total all crops	313,515,780	370,184,980	342,496,941	118	93	109

*k*Oats = 37,991,002 acres and mixed crops 577,078 in 1919. The fruit acreages for 1919 were taken from the United States Department of Agriculture Yearbook p. 464-468, 1921.

*ACRES OF THE CORN, SORGHUM, ETC.

1909		1919		1924	
Corn	98,382,665	Corn	87,771,600	Corn	82,316,967
Kaffir and milo	1,635,153	Kaffir and milo	3,619,034	Corn silage	4,257,634
Coarse forage	4,034,432	Silage	4,003,226	Corn fodder	6,658,063
		Kaffir, sorghum etc. forage	4,746,849	Corn hogged off	5,170,627
		Corn forage	14,502,932	Sorghum grain	3,931,727
		Hogged off	3,107,318	Sorghum fodder	4,158,789
Total	104,052,250		117,750,959		106,493,807

From 1920 to 1925, the percentage changes in population and in agriculture were as follows:

Population	8 increase
Number of farms	1 decrease
Acres of land on farms	3 decrease
Acres of food and feed crops	11 decrease
Acres of cotton, tobacco and flax	20 increase
Acres of all crops	7 decrease
Crop yields (1918 to 1922 compared with 1924 to 1926 omitting cotton)	1 decrease
Number of all cattle	8 decrease
Dairy cows	10 decrease
Number of hogs	13 decrease

From 1910-1925, population increased 8 per cent, but there was a rapid decrease in agriculture. The number of farms decreased 1 per cent; land in farms, 3 per cent; acres of food and feed crops, 11 per cent, and crop yields 1 per cent. The total production therefore decreased 12 per cent.

The yields per acre of crops, other than cotton, declined 1 per cent. In spite of the effects of previous efforts to increase production, and in spite of the elimination of low yielding land, crop yields have ceased to increase.

For ten years, agriculture expanded rapidly. The census of 1925 shows the amount of contraction that took place in 5 years of depression. By comparing the census of 1910 with that of 1925, the net result of the expansion and contraction up to 1925 is shown. The net percentage increases in population and in agriculture from 1910 to 1925, were as follows:

Population	24
Number of farms	0
Acres of land in farm	5
Acres of food and feed crops	7
Acres of cotton, tobacco and flax	25
Acres of all crops	9
Crop yields (1908-1912 compared with 1924-1926 omitting cotton)	4
Number of cattle	3
Number of hogs	1 decrease
Reduction in required acres of food and feed crops because of prohibition and reduction in horses up to January 1, 1927	9

In 15 years, population increased 24 per cent. The acres of food and feed crops increased 7 per cent. The combined acreage of cotton, toabcco and flax increased 25 per cent; and the acreage of all crops 9 per cent. Cattle increased 3 per cent and hogs 1 per cent.

In the 15 years, crop yields increased 4 per cent and the acres of food and feed crops increased 7 per cent. Production therefore, increased about 11 per cent. If allowance is made for prohibition and the reduction in horses and mules, an increase of 13 per cent would have been sufficient to keep pace with population. An increase of 15 per cent would keep pace with population growth up to 1926.

When a farmer starts to increase production, the full effects are not obtained for a number of years. One of the striking ways of increasing production in most of the humid regions of the United States is by using lime and phosphorus to grow clover or other legumes for feed and for soil improvement. Before the farmer decides to undertake such improvement, prices must be high enough to justify it. If the farmer is following a four year rotation, he will apply lime on the small grain with which he seeds the clover. The yield of grain will not be increased materially. One year later he will have an increased clover crop, and four years later the benefits of the clover sod will become apparent on the small grain crop. The benefits to his second field will follow in the same order, but one year later. It will be four years before the fertilizer is applied to the fourth field, and eight years before the small grain on that field will be benefitted by the treatment.

Another of the most important ways in which crop yields are increased, is by tile drainage. Machines for digging ditches for the drains are now manufactured. They were rapidly coming into use before deflation occurred. In order to start the laying of tile drains again, prices must be high enough to justify the expense. In the year when drains are laid, crop yields are likely to be reduced because the drainage operations often interfere with crop production. The full effect of the drainage usually does not occur at once. Soil channels gradually open thro the soil so that the area influenced by the drains usually increases for several years.

Whenever prices justify the effort, crop yields can be very materially increased. Applications of lime and phosphorus in order to grow legumes, the use of manure spreaders, and tile drains are some of the most important ways in which the increases are brought about.

The maintence of yields at their present levels is due, in considerable part, to efforts put forth before 1920. The methods of farming used in the last 6 years will effect yields for some years to come.

Because they do not realize these facts, some persons believe that there is now, and will continue to be, a permanent over-production in agriculture. They fear that any improvement in prices paid to farmers would injure farmers by causing even more disasterous overproduction. It will take a decided increase in the ratio of farm prices to other prices to stop the decrease in production that is taking place, and still higher prices, and some years of effort, to increase production.

Debts

Speculation in land has been widely heralded as the cause of the agricultural depression. About one-third of the farmers in the United States are tenants. The majority of them never owned land. Their condition certainly is not to be attributed to speculation in land. Over one-half of the farmers who operated their own farms in 1920 were free from mortgage debts. Their condition is certainly not due to land speculation.

The total mortgage debt on farms operated by owners in 1910, was $2,278,000,000.[4] In 1920, the mortgage debt was $5,444,000,000. The increase in indebtedness was $3,166,000,000. Since the average interest rate was 6.1 per cent, the increase in annual interest payments was $193,000,000.

Taxes

In 1913-14, taxes on farm land per acre averaged 31.4 cents.[5] Using the Census figures for acres at the nearest census date, this would make a total tax payment of $276,000,000. In 1921-22, the taxes averaged 70.9 cents per acre. This would make the total tax payment $678,000,000. According to Kendrick[6], farm taxes increased 14 per cent in New York State from 1921-22 to 1924. Similar increases probably occurred in other states. This would make the total tax bill $747,000,000.

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[4] Farms for which the debt was not reported are assumed to be distributed in the same ratio as those for which the report was given.

[5] 1922 Yearbook, United States Department of Agriculture, p. 1002.

This would make an increase in taxes of $471,000,000 per year. It will be seen that this is more than twice the increase in annual interest payments. Farm taxes are quickly spent for wages and school teachers' salaries. Taxes and wages have changed in almost the same proportion.[6]

Taxes and interest payments largely go from farms to towns and cities. The increases in them, very largely represent increased city income or money transferred to towns and cities. The total of these increases in the past seven years amount to about 4 billion dollars.

Disparity Between Farm and Retail Prices

A discussion of the relationship of farm and retail prices when prices rise and when they fall, is given on page 613. A figure showing the relationship is given on page 615. The transfer in wealth brought about by these relationships is the most important effect of inflation and deflation on agriculture.

For the five years, 1910-14, the gross cash income of American farms averaged $6,293,000,000.[7] About 75 per cent of this income or $4,700,000,000 was for food used in American cities.

The gradual increase in income from food sold, if prices had remained as they were in 1910-14, is shown in table 5. The table also gives the actual income at prices which farmers received. It further shows what the income would have been if farm prices had been in their usual relationships to retail prices. For the four years 1916-19, farmers received $3,700,000,000 more money than they would have received had distributing charges risen as rapidly as retail prices. This represents money that under usual circustances would have been paid for distribution, most of it would have gone to laborers in towns and cities. Such conditions could not continue. They were an inevitable, but temporary, result of financial inflation. When deflation occurs, distributing charges remain high relative to retail prices.

TABLE 5. FOOD SOLD BY FARMER IN THE UNITED STATES FOR USE IN THE UNITED STATES

Year	Index numbers for Dec. 1			Value at farm prices of 1910-14 000,000 omitted	Value at farm prices 000,000 omitted	Value if farm price index = retail price index 000,000 omitted	Value if farm price index = cost of living index 000,000 omitted	Difference due to discrepancy in farm and retil index 000,000 omitted	Difference due to discrepancy in cost of living and retail index 000,000 omitted
	Farm prices 1910-14 =100	Retail prices 1910-14 =100	Cost of living 1913 =100						
1916	143	126	118	$5,000	$7,150	$6,300	$5,900	$+ 850	$ +400
1917	190	163	142	5,080	9,650	8,280	7,210	+1,370	+1,070
1918	209	190	174	5,140	10,740	9,770	8,940	+ 970	+830
1919	206	196	199	5,170	10,650	10,130	10,290	+520	−160
1920	160	182	200	5,240	8,380	9,540	10,480	−1,160	−940
1921	119	152	174	5,330	6,340	8,100	9,270	−1,760	−1,170
1922	126	151	170	5,400	6,800	8,150	9,180	−1,350	−1,030
1923	121	151	173	5,480	6,630	8,270	9,480	−1,640	−1,210
1924	140	155	173	5,580	7,810	8,650	9,650	−840	−1,000
1925	159	171	178	5,660	9,000	9,680	10,070	−680	−390
1926	150	169	176	5,730	8,600	9,680	10,080	−1,080	−400
Total 1916 to 1919								+3,710	+2,140
Total 1920 to 1926								−8,510	−6,140

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[6] Farm Economics No. 32, p. 423, March 1926.

[7] King, W. I., Knauth, O. W., and Macauley, F. R., Income in the United States, Vol. 2, p. 303, 1922.

If, in the past seven years, farm prices had been in their usual relationship to retail prices, farmers would have received $8,500,000,000 more income from the sale of food. If distributing charges had been only as much above prewar as retail prices were above prewar, farmers would have received this much more money and distributing agencies would have received this much less. This represents a transfer of wealth from country to city, due to the fact that wages remained high when prices fell. If farmers received nothing for food, retail prices would now be nearly as high as they were before the war.

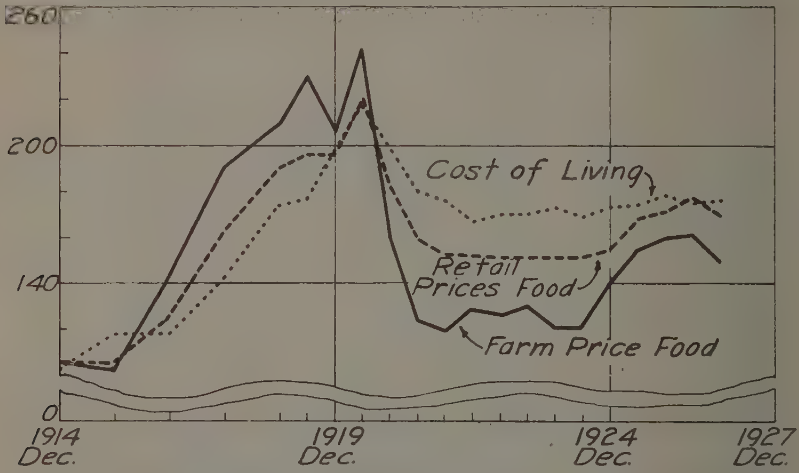

FIGURE I.—INDEX NUMBERS OF PRICES OF FOOD AND THE COST OF LIVING

In the period when prices were rising, food was higher than the general cost of living. When deflation occurred, it was lower. The food index is approaching the cost of living index.

In the four years when wages were low compared with prewar, farmers received nearly 4 billion dollars of extra income. In the last seven years, they lost all of this and nearly 5 billion dollars more. This would not be so serious if the present farmers had received the extra income ten years ago. The present farmers, are to a considerable extent, different individuals. Since farming is an individual business, there is a constant influx of new operators. A large percentage of the present operators were not operators during the inflation period.

The relative importance of debts, taxes, and the discrepancy between farm and retail prices is very striking. The increase in interest payments in the last 7 years has amounted to about $1,400,000,000. The increase in taxes amounted to about $3,000,000,000. The discrepancy between farm and retail prices is twice as important as debts and taxes combined.

It will be noted that this is not a question of supply and demand. Retail prices are the measure of supply and demand. This is a discrepancy between the relation of farm and retail prices. In so far as there has been an excess supply of farm products, it has lowered retail prices, and brought an added discrepancy. In the past 7 years, there has been a relative surplus of food. Food has been cheap compared with other items in the cost of living. Had food sold for higher prices, the total cost of living would not necessarily have been higher. A part of the high cost of other things has been due to the increased demand because food was cheap. The building boom and the great expansion in cities has, in a large part, been a result of cheap food. If food is relatively cheap, it leaves more money to spend for other things. The other things are largely city made.

If the index numbers for the farm prices of food for the past 7 years had been as high as the index number of the cost of living, that is 78 per cent above prewar, the farmers would have received a further additional income of 6 billion dollars. In the inflation period, they would have received 2 billion less than they got.

The discrepancy between farm prices, retail prices, and the cost of living, transferred about 6 billion dollars of wealth from city to country in the four years of inflation, and transferred nearly 15 billion dollars from country to city in 7 years of deflation, or a net transfer of 9 billion dollars up to date. The 9 billion dollars is about $2,000 per farm for farms producing food for sale. This net transfer of 9 billion dollars represents the relative status of cities and the food producing regions in the country. Were it not for this, debts and taxes would not be burdensome. Such a transfer of wealth always occurs with inflation and deflation, but in no previous case have the results been so extreme.

Progress in Adjustment

Adjustment can be brought about by reducing costs of distribution, by reducing the supply of food, or by the growth of population. All these adjustments are occurring. From 1920 to 1925, population increased about 8 per cent, the acreage of food and feed crops decreased 11 per cent .

When allowances are made for the decreased amount of food and feed crops needed, because of prohibition, and because of the reduction in the number of horses, the total production of food and feed crops is now 4 per cent below the production per capita in 1909. The production of grain per capita is 6 per cent below the prewar average. Since production is declining while population is increasing, farm prices will, in time, be brought into adjustment with other prices.

The following comparisons from table 1, page 616 show that food prices are coming into adjustment with the other items in the cost of living.

	Prices paid to farmers for food	Retail prices of food	Cost of Living
December 1921	119	152	174
December 1926	150	169	176
Points increase	31	17	2

If further deflation does not occur, the prices paid to farmers for food will come into adjustment with retail prices before many years. They might do so in any year if there should be a severe drought.

If further deflation occurs, the progress would be delayed because costs of distribution would remain high.

G. F. Warren and F. A. Pearson

PRICES OF BUILDING MATERIAL

Prices of white pine and brick for the Civil War period and of yellow pine and brick for the World War period, are shown in Figure I. The period of inflation during the Civil War, resulted in such a low buying power of wages that building was discontinued. When inflation occurred, wages had a high buying power because food was very cheap, and because of the shortage of buildings due to the discontinuance of building during inflation.[1] A building boom resulted. Building was overdone. Building materials were cheap for six years, after which recovery occurred. Thus for the Civil War discription has been repeated.

G. F. Warren and F. A. Pearson

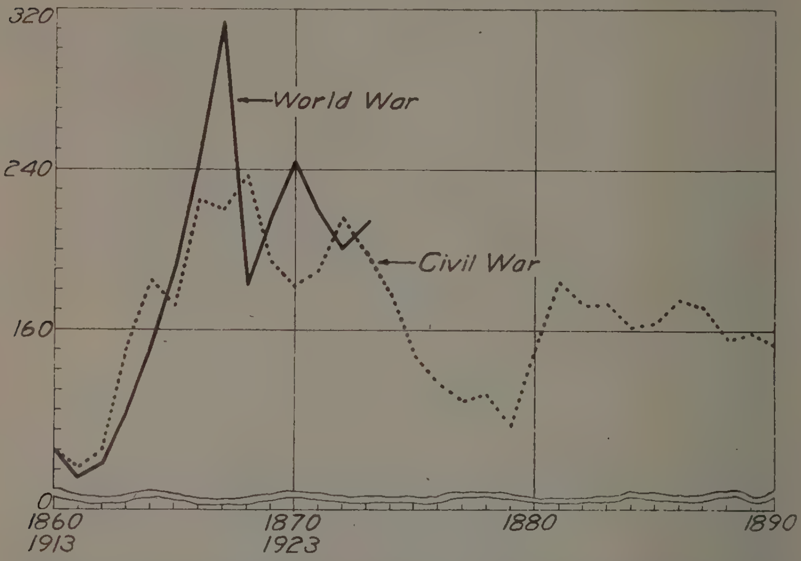

FIGURE 1—INDEX NUMBERS OF PRICES OF WHITE PINE AND BRICK, CIVIL WAR PERIOD, AND PRICES OF YELLOW PINE AND BRICK, WORLD WAR PERIOD.

In each period, building materials were at first cheap, but rose very high when deflation occurred. After the building boom in the Civil War period, there was a period of about six years when little building was done and building materials were cheap.

PURCHASING POWER OF CITY WAGES FOR PRODUCTS OTHER THAN FOOD

The quantities of materials, other than food, that could be bought by city workers are shown in Figure 2. The cost of a given quantity of eight of the most important food materials are deducted from the weekly wage payment. The balance of the money is used to purchase non-food products.[2]

Over a series of years, there has been an increase in purchasing power of 1.5 per cent per year, based on the year 1888 as 100. A small part of the increase has gone for the choicer kinds of foods, but most of it has gone for improvement in well-being as expressed by longer years of schooling, better clothing, better housing, more travel, better medical service, and other improvements that distinquish our civilization from that of 85 years ago.

While the purchasing power of wages increases greatly over a series of years, it is exceedingly irregular in movement. With the financial inflation of the Civil War period, and again with inflation in the World War period, the purcahsing power fell very low. In the long period of falling prices which culminated in 1896, the buying power of wages was much above the normal trend. This high buying power was due to the fact that farmers were getting so little for food. In the period of falling prices since 1920, the buying power of wages has again been far above the general trend, and for the same reason. With falling prices, farmers receive so little for food that a large portion of the laborers income is available for other things.

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[1] Farm Economics No. 9, p. 80, November 1923.

[2] Farm Economics, No. 25, p. 280-282. June, 1925.

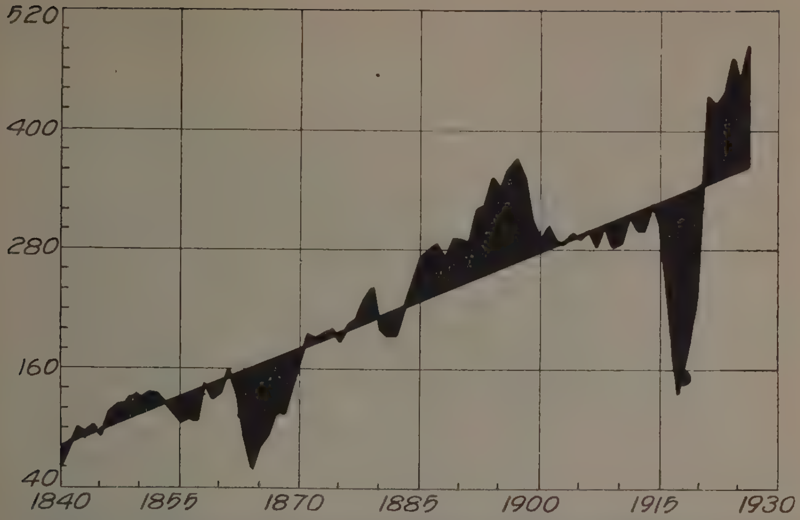

FIGURE 2—PURCHASING POWER OF WAGES IN TERMS OF PRICES OF NON-AGRICULTURAL PRODUCTS, AFTER A CONSTANT QUANTITY OF FOOD MATERIALS HAVE BEEN PURCHASED, 1840-1849 = 100.

The straight line shows the long time tendency of the buying power to rise. The buying power of wages was very low in the two periods of inflation. It was very high in the two periods when deflation occurred.

During the period of financial inflation, from 1916 to 1920, the average buying power of wages, after buying the fixed quantity of food, was 40 per cent below the five year prewar average. In the five years of 1921-25, it was 44 per cent above prewar. G. F. WARREN and F. A. PEARSON

FARM, WHOLESALE, AND RETAIL PRICES OF FOOD IN THE UNITED STATES

All the staple farm products produced by American farmers are consumed. The price to the ultimate consumer, therefore, has to be such that consumers will take all the products at that price. That is, supply and demand determine what the retail price shall be.

It is not possible to raise retail prices because handling charges or any other costs have risen. The consumer is not concerned with who gets the cash. He is concerned with what he pays. The retail prices have to be set at such a point that he will take all of the product at that price.

The amount of the hold-over of non-perishable commodities can be increased to a limited extent. This raises prices this year and lowers them next year.

Farmers receive what is left of the retail price after paying all the costs of assembling, transporting, processing and distributing. Therefore, farm prices are not governed by supply and demand alone. They are retail prices, less all the costs of taking the product to the consumer. If farm prices are not high enough to maintain the agricultural industry, production will be curtailed so that some years later costs of distribution will be passed on to consumers, but this requires a number of years for most products. The farm price in any given year is the retail price of that year less all the charges for distribution.

If retail prices are represented by R, prices that farmers received by F, and all assembling and distributing charges by D, then:

R is governed by supply and demand $F = R - D$

D is not a matter of supply of the product or demand for it.

If a farm community is short of potatoes, the farm price may be higher than the retail price.

If the farmer retails his products, F = R.

If the farm is located near a large city, D is reduced and F approaches R.

If the farm is a long distance from the city, or if the product is very bulky, D becomes very large and is often much more important than R in determining farm prices. In extreme cases, F is almost solely governed by D, and only slightly effected by R, that is, by supply and demand.

When prices rise rapidly, as they did during the World War period, charges for distribution rise slowly, and farm prices are very high compared with retail prices. When deflation occurs, distribution charges remain high and farm prices are very low compared with retail prices.

Index numbers showing these relationships have been published frequently in Farm Economics,[1] but, the retail prices formerly used were for all foods as published by the United States Bureau of Labor Statistics. Some of these foods are not the product of American farms. Since imported foods and American foods do not have exactly the same price fluctuations, an index for American foods only has been prepared. Index numbers were prepared for the same foods at farm, wholesale, and retail prices. The weights for each index number are the same. For example, the farm prices of beef cattle have a weight of 17, and retail prices of 4 grades of beef have a combined weight of 17.

The index numbers for prices paid to farmers in surplus areas are for the major centers where farmers produce these products for sale. The farm price for deficit areas are for northeastern states where consumption is in excess of the local supply. Farm prices in such areas have some of the characteristics of retail prices. For example, the farm price of corn in New England is a retail price. Farm prices for beef in the surplus area are now low because the beef produced in these regions is from dairy animals, which sell at a very low price when wages are high. Farm prices for the entire United States include some prices that are retail prices and some that are prices for surplus areas.

As products pass through the channels of trade, they gradually partake of the characteristics of retail prices. Two index numbers of wholesale prices are included. In the first one, the prices are for products as near as possible to the condition in which they left the farm. The second index numbers, include wholesale prices of products, many of which are processed. Retail prices are those reported for the United States, except for milk, which is the New York City retail price.

As has been pointed out repeatedly in Farm Economics, farm prices do not fluctuate directly with retail prices, except when these prices are in adjustment with freight rates, wages and other handling charges. If retail prices were in adjustment with wages and other charges, farm prices would be in adjustment with retail prices.

If the farm price of a product is one dollar, and the retail price is two dollars, an increase of one dollar in the retail price is accompanied by an increase of about one dollar in the farm price. The retail price would be $3.00 and the farm price would be about $2.00. That is, a 50 per cent increase in retail prices would be accompanied by about 100 per cent increase in farm prices. Conversely, a decrease of 50 cents in retail prices would decrease farm prices nearly 50 cents, or a decrease of about 25 per cent in retail prices would decrease farm prices almost 50 per cent.

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[1] Farm Economics, pp. 23, 37, 79-80, 126-132, 202-204, 377-378.

When retail prices are low relative to wages, every point of rise in the index of retail prices results in a considerably greater rise in prices paid to farmers. As an average for April, May and June 1924, retail prices of food were 51 per cent above prewar prices. The average for June, July and August 1925 was 71 per cent above prewar, or a rise of 20 points. Corresponding prices paid to farmers in surplus areas were 22 per cent and 62 per cent above prewar, or a rise of 40 points. Similarly, if retail prices were above the wage level, farm prices would be still more above and out of adjustment with retail prices.

The relationship of farm and retail prices of food and earnings of factory workers are shown in Figure 1. The charges for distributing food are primarily city wages. There has been a material increase in the efficiency with which food is handled in the channels of trade. This improvement has been greatly stimulated by high wages. The costs of distribution, therefore, are not as much above prewar as are wages. The increase in efficiency that can take place in such highly developed and complicated processes, in a few years, is small in comparison with the violent price changes that have occurred.

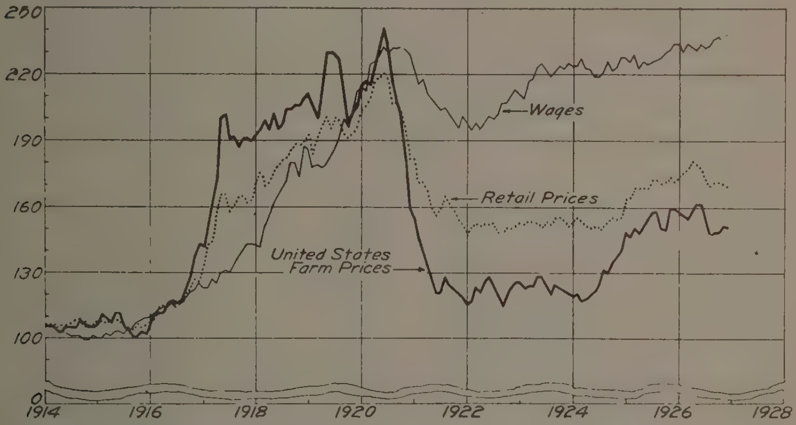

FIGURE 1.—INDEX NUMBERS OF PRICES OF FOOD AND EARNINGS OF NEW YORK STATE FACTORY WORKERS, 1910-14 = 100.

When financial inflation occurs, distributing charges rise slowly, therefore, farm prices are high comparep with retail prices. When deflation occurs, distributing charges remain high and farm prices are very low compared with retail prices. These relationships are the most important effects of inflation and deflation on agriculture.

Earnings of factory workers are about two and one-third times prewar. The complete charges for food distribution are not known, but probably are between 75 and 100 per cent above prewar. If they are no higher than this, it shows that a remarkable increase in efficiency has occurred.

In 1917-18, retail prices rose much more rapidly than did wages. Most of the increase in retail prices therefore, was transferred to farmers. This made farm prices very high compared with retail prices. When deflation occurred, distributing charges remained high and most of the decrease was deducted from farm prices. The lowest yearly average for retail prices was 50 per cent above prewar. Farm prices to farmers went to 21 per cent above prewar. This same type of relationship is always an inevitable result of deflation whenever deflation occurs. Precisely the same relationship existed in England 100 years ago when deflation occurred following the Napoleonic Wars. This relationship is the most important effect of financial deflation on agriculture.

TABLE 1. INDEX NUMBERS OF PRICES OF FOOD IN THE UNITED STATES*
Corresponding Months 1910–14 = 100

Date	Farm prices			Wholesale		Retail prices
	Surplus areas	Deficit areas	United States	Unprocessed	Processed	
1910	102	102	103	100	100	96
1911	91	93	92	91	90	94
1912	102	101	100	103	104	100
1913	100	100	100	101	102	103
1914	105	104	105	105	104	106
1915	107	103	106	107	107	107
1916	125	115	117	125	125	117
1917	191	172	181	188	187	156
1918	205	191	200	205	208	180
1919	220	203	213	223	220	194
1920	216	205	207	218	228	207
1921	128	137	130	137	154	163
1922	122	123	121	133	142	150
1923	125	127	124	131	141	154
1924	129	126	126	134	146	153
1925	156	143	152	159	171	169
1926	157	143	154	155	169	174
1910						
Jan.	104	104	104	104	106	97
Feb.	104	102	105	104	105	97
Mar.	108	101	107	108	108	97
Apr.	107	104	108	104	106	96
May	105	103	105	102	103	96
June	102	105	103	99	99	96
July	100	100	101	100	100	95
Aug.	100	103	101	98	100	96
Sept.	102	101	102	98	98	95
Oct.	100	100	100	95	95	96
Nov.	97	99	99	91	92	96
Dec.	96	99	98	92	91	97
1911						
Jan.	97	102	99	92	90	96
Feb.	92	98	94	88	89	95
Mar.	87	90	91	84	85	94
Apr.	85	89	88	82	83	93
May	85	89	87	83	84	93
June	85	90	87	89	89	94
July	88	93	90	92	91	96
Aug.	93	90	93	94	93	95
Sept.	91	94	92	91	90	94
Oct.	92	92	92	95	93	94
Nov.	96	91	94	97	95	95
Dec.	97	94	95	99	98	96
1912						
Jan.	98	95	96	101	101	100
Feb.	102	97	99	102	103	101
Mar.	101	104	99	103	102	99
Apr.	105	103	102	109	107	102
May	109	105	105	111	110	103
June	107	102	104	106	107	101
July	105	100	102	101	103	99
Aug.	103	100	101	100	101	99
Sept.	99	97	98	101	101	99
Oct.	99	103	98	103	104	100
Nov.	97	97	97	101	103	99
Dec.	97	101	97	100	101	98
1913						
Jan.	95	97	95	98	99	100
Feb.	97	100	97	101	101	101
Mar.	100	100	99	102	102	104
Apr.	100	99	100	102	102	104
May	100	100	99	100	102	103
June	102	99	101	102	102	103
July	102	102	102	102	102	103
Aug.	99	102	100	99	101	103
Sept.	99	102	100	102	103	104
Oct.	103	99	103	103	102	104
Nov.	104	104	104	105	104	104
Dec.	105	101	105	103	102	103
1914						
Jan.	105	102	105	105	103	106
Feb.	105	103	105	105	103	106
Mar.	105	105	105	103	102	106
Apr.	102	105	103	102	101	105
May	102	104	103	103	102	106
June	104	104	105	104	103	106
July	105	105	105	106	103	107
Aug.	106	104	105	108	106	108
Sept.	109	105	108	108	109	108
Oct.	106	105	106	104	106	106
Nov.	106	106	105	106	106	105
Dec.	106	105	105	106	107	105
1915						
Jan.	107	104	107	112	111	108
Feb.	111	103	111	114	114	108
Mar.	110	104	109	109	111	107
Apr.	107	104	107	112	113	108
May	115	107	112	114	113	109
June	113	106	112	107	106	108
July	109	103	106	108	105	106
Aug.	108	101	104	101	103	105
Sept.	100	102	101	97	99	104
Oct.	102	99	101	102	103	106
Nov.	103	102	103	100	103	105
Dec.	102	103	102	106	107	106
1916						
Jan.	108	102	106	113	113	109
Feb.	115	104	111	116	117	111
Mar.	116	108	111	117	118	114
Apr.	116	106	112	119	119	115
May	121	118	116	121	120	115
June	122	111	117	118	117	116
July	122	111	116	118	116	114
Aug.	122	115	117	124	127	115
Sept.	129	119	124	130	131	120
Oct.	133	123	128	137	136	123
Nov.	147	132	138	142	144	127
Dec.	150	132	143	143	148	126
1917						
Jan.	149	134	142	156	153	132
Feb.	161	140	152	168	164	142
Mar.	175	153	165	173	169	144
Apr.	184	164	173	193	194	157
May	213	190	200	213	213	165
June	212	187	202	207	202	165
July	205	174	191	198	193	158
Aug.	202	176	192	195	190	160
Sept.	196	176	187	191	189	164
Oct.	199	185	191	191	191	165
Nov.	199	182	191	191	189	162
Dec.	195	181	190	190	190	163
1918						
Jan.	193	182	193	201	202	171
Feb.	199	184	195	205	207	176
Mar.	203	191	199	196	203	170
Apr.	199	186	195	198	205	171
May	208	199	202	203	210	176
June	198	185	195	198	204	178
July	204	187	198	205	211	181
Aug.	210	191	204	209	212	182
Sept.	209	193	204	210	210	186
Oct.	211	198	206	217	209	188
Nov.	214	203	206	210	210	188
Dec.	216	201	209	216	215	190

TABLE 1. (continued) INDEX NUMBERS OF PRICES OF FOOD IN THE UNITED STATES*

Corresponding Months 1910-14 = 100

Date	Farm prices			Wholesale		Retail prices
	Surplus areas	Deficit areas	United States	Unprocessed	Processed	
1919						
Jan.	220	199	211	219	213	192
Feb.	210	192	205	210	204	184
Mar.	206	189	201	220	215	190
Apr.	221	199	211	232	228	197
May	240	223	230	237	238	200
June	240	226	230	220	221	196
July	237	213	229	233	225	200
Aug.	237	211	227	229	229	199
Sept.	212	207	209	208	211	193
Oct.	200	199	199	212	211	191
Nov.	210	189	203	237	211	193
Dec.	214	197	206	231	227	196
1920						
Jan.	225	199	215	239	235	204
Feb.	222	202	217	229	231	206
Mar.	219	208	216	230	237	209
Apr.	226	217	219	247	252	217
May	244	221	233	248	256	219
June	250	223	241	243	251	220
July	244	234	234	231	247	218
Aug.	222	215	218	213	229	207
Sept.	213	206	208	207	221	207
Oct.	199	189	198	192	209	204
Nov.	183	189	183	184	196	196
Dec.	156	167	160	166	181	182
1921						
Jan.	151	161	155	163	173	182
Feb.	141	155	146	146	159	171
Mar.	136	151	139	142	160	171
Apr.	127	147	130	132	153	167
May	121	142	124	133	153	159
June	115	132	120	129	150	156
July	118	128	121	137	156	159
Aug.	133	137	128	138	161	165
Sept.	125	132	124	131	152	161
Oct.	121	128	122	134	150	158
Nov.	119	127	120	131	146	154
Dec.	118	128	119	129	141	152
1922						
Jan.	115	124	116	129	138	147
Feb.	117	121	117	140	148	151
Mar.	125	126	123	134	147	152
Apr.	123	121	121	133	148	151
May	128	123	126	138	150	152
June	130	126	128	134	147	152
July	125	123	125	132	142	152
Aug.	120	122	119	123	136	148
Sept.	113	122	115	129	137	148
Oct.	120	117	118	133	140	150
Nov.	122	121	123	133	138	150
Dec.	127	125	126	141	144	151
1923						
Jan.	125	124	125	135	140	153
Feb.	121	124	123	135	141	152
Mar.	124	123	124	133	141	153
Apr.	125	131	124	132	142	153
May	129	132	128	133	143	152
June	124	136	128	128	138	151
July	125	130	124	128	137	153
Aug.	123	126	120	131	140	152
Sept.	129	127	124	132	144	155
Oct.	127	125	123	133	143	155
Nov.	127	128	122	130	142	153
Dec.	123	121	121	128	137	151
1924						
Jan.	121	121	119	131	140	153
Feb.	122	121	120	132	143	155
Mar.	120	124	117	128	140	153
Apr.	120	121	118	128	139	151
May	122	123	120	129	141	150
June	124	121	121	131	143	151
July	129	121	125	132	143	150
Aug.	138	130	131	133	148	151
Sept.	133	129	130	133	147	153
Oct.	139	126	135	140	152	155
Nov.	139	137	137	141	152	154
Dec.	144	136	140	151	161	155
1925						
Jan.	151	139	148	164	172	163
Feb.	147	143	146	160	173	164
Mar.	154	136	150	161	176	168
Apr.	151	142	148	154	169	168
May	153	148	151	158	171	168
June	157	152	154	161	171	168
July	161	145	157	164	173	172
Aug.	167	148	158	160	173	172
Sept.	155	146	150	155	168	170
Oct.	157	140	149	156	167	171
Nov.	165	150	159	159	170	173
Dec.	164	141	159	161	170	171
1926						
Jan.	163	143	157	164	174	174
Feb.	161	144	156	162	173	175
Mar.	158	151	154	158	175	177
Apr.	163	151	158	163	179	180
May	162	150	161	164	179	179
June	164	151	161	162	177	177
July	161	143	156	151	166	172
Aug.	152	141	147	143	162	169
Sept.	151	136	148	148	162	171
Oct.	153	136	148	151	162	171
Nov.	157	139	151	147	158	170
Dec.	155	137	150	151	160	169

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* The index numbers were prepared by the following students in the course in Prices, in the Department of Agricultural Economics and Farm Management:

Surplus food producing areas, J. R. Currie, Glasgow University, Glasgow, Scotland and G. A. Pond, University of Minnesota, St. Paul, Minnesota; deficit food areas, H. J. Stover and O. Ulrey, Cornell University, Ithaca, New York; United States, A. J. Beyleveld and W. J. Pretorius, Stellenbosch University, Stellenbosch, South Africa; wholesale prices unprocesses foods, R. B. Crane, Cornell University, Ithaca, New York; wholesale prices of processed foods, F. L. Griffin, University of California, Berkeley, California; and those for retail prices of foods, Helen Canon, College of Home Economics, Cornell University, Ithaca, New York.

All farm prices are those reported for the United States Department of Agriculture, except for milk which is the price published in FARM ECONOMICS for milk at Utica, New York. All wholesale and retail prices are those reported by the Bureau of Labor Statistics. The states selected for farm prices in the surplus area are the leading states in production. The states selected for farm prices in deficit areas are North Eastern States where the greatest food deficit exists.

The products included represent about 84 per cent of the food produced in the United States for consumption in this country. The major products omitted; because prices are not available, are fruits and vegetables.

The weights are based on the quantities produced in 1919 as reported by the Census. They were reduced by the amounts used for seed, feed for livestock, and for exports. The weights of dairy and poultry products are slightly higher than the 1919 Census because the production of these has increased. The weights for prices paid to farmers in the United States are as follows; corn, 5; wheat, 16; rye, 1; oats, 1; potatoes, 4; chickens, 4; eggs, 9; milk, 10; butter, 11; veal calves, 2; beef cattle, 17; sheep, 1; lambs ,1; and hogs, 18.

(*Footnote continued on page 618*)

Exactly the same relationship was shown for individual commodities in Farm Economics for March 1924. In 1917, eggs were retailing in Chicago at 55 per cent above prewar prices, but eggs on Iowa farms were 78 per cent above prewar. Milk was retailing in New York City at 32 per cent above prewar prices, but farmers were receiving 73 per cent above prewar, whereas in 1922, milk was retailing in New York City at 62 per cent of prewar prices, but farmers received only 39 per cent above prewar prices.

Many persons judge the condition of the farmer by wholesale or retail prices and are thereby mislead. If prices paid to farmers were as much above prewar as retail prices are above prewar, the condition on farms would be very much less serious. The purchasing power of the farmer's dollar is usually measured by comparing farm prices with wholesale prices. This method of measurement makes farm conditions appear better than they are. A more accurate measure of the purchasing power of the farmer's dollar would be a comparison of farm prices with the retail prices of articles which the farmers buys.

Apparently, prices which farmers pay for purchased materials are as high or higher than the cost of living index. The lowest index in the cost of living is food. The farmer's expenses are less heavily weighted with food than is the cost of living in cities. The index numbers of wholesale prices of agriculture machinery is slightly higher than the cost of living index.

G. F. Warren and F. A. Pearson

THE OUTLOOK FOR THE REMAINDER OF THE 1926 POTATO CROP

For the past six years, New York State has moved to market about 49 per cent of its total shipments of potatoes by January first of each year.[1]

Of the 14 important late potato producing states, 4 report a decrease in production as compared with last year and 10 an increase. Maine and New York account for approximately 8.8 million bushels increase, while Michigan, Wisconsin and Minnesota together are responsible for an increase of about 12 million. Idaho, California, Oregon and Washington report a total increase of 4.3 millions. The total estimated crop of potatoes for 1926 stands at 356,360,000 bushels as compared with 323,465,000 for 1925, and a 5 year average of 395,242,000. (Table 1.)

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[1] United States Department of Agriculture, Market News Service, "Marketing New York Potatoes", October 1926, page 22.

(Footnote continued fpom page 617)

The weights for prices paid in surplus areas are; corn, Iowa 3, Illinois 2; wheat, Kansas 10, North Dakota 6; rye, North Dakota 1; oats, Iowa 1; potatoes, Minnesota 2, Maine 2; chickens Iowa 2, Illinois 2; eggs, Iowa 5, Illinois 4; milk, New York 10, butter, Minnesota 6, Wisconsin 5; calves, Wisconsin 1, New York 1; beef cattle, Iowa 9, Nebraska 8; sheep, Idaho 1; lambs, Idaho 1; hogs, Iowa 10, Illinois 8.

For farm prices in deficit areas the same weights were used for the United States. Corn, wheat, rye, oats, veal calves, beef cattle, and hogs are New Jersey farm prices. Potatoes ,chickens, eggs, and butter are Rhode Island farm prices. Sheep and lambs are Vermont farm prices. Milk is the New York farm price.

Wholesale products before processing and their weights are as follows: Corn, cash, contract grades, Chicago, 5; wheat, No. 1, northern spring, Chicago, 16; rye, No. 2, cash, Chicago, 1; oats, contract grades, Chicago, 1; potatoes, white, good to choice, Chicago, 4; live fowls, New York, 4; eggs, western firsts Boston, 9; milk, fresh, New York 10; butter, creamery extra, New York, 11; veal calves, good dressed, Chicago, 2; steers, good to choice, Chicago, 17; ewes, native all grades, Chicago, 1; lambs, western, good to choice, Chicago, 1: hogs, heavy, Chicago, 18.

Wholesale products, some of which are processed and their weights, are as follows: yellow table corn meal, Philadelphia, 5; wheat flour, winter straights, Kansas City, 16; rye flour, white, Minneapolis, 1; oat meal, carlots in 90 pound sacks, New York, 1; potatoes, white, good to choice, Chicago, 4; fowls, western dry packed, New York, 4; eggs, western firsts. Boston, 9; milk, fresh, New York, 10; butter, creamery extra, New York, 11; veal calves, good dressed, Chicago, 2; beef, carcass, good native steers, Chicago, 17; mutton, dressed, New York, 1; lambs, dressed, Chicago, 1; pork, fresh loins, Chicago, 5; cured pork, short clear sides, Chicago, 4; hams, smoked, Chicago, 5; lard, prime contract, New York, 4.

All retail prices are for the United States except milk. The weights are as follows: Corn meal, 5; wheat flour, 5; bread, 13; (The weight for oat meal was added to flour and the weight of rye flour was added to bread); potatoes, 4; hens, 4; eggs, strictly fresh, 9; milk, fresh, New York City, 10, butter, 11; sirloin steak, 5; round steak, 4; rib roast, 4; chuck roast, 3; plate beef, 3; leg of lamb, 2; pork chops, 5; bacon, 4; ham, 5; and lard, 4.

TABLE 1. COMPARISONS OF ESTIMATED PRODUCTION OF LATE WHITE POTATOES IN FOURTEEN COMPETING STATES, 1921-1926
(000 omitted)

State	Average annual crop 1921-1925*	Final estimate 1926*	Final estimate 1925*	Increase or decrease compared with 1925 crop
Maine	34,895	36,830	33,750	+3,080
New York	35,268	29,016	23,220	+5,796
Pennsylvania	24,958	22,176	24,846	−2,670
Michigan	31,810	29,880	24,411	+5,469
Wisconsin	28,659	27,140	23,632	+3,508
Minnesota	37,668	29,800	26,772	+3,028
North Dakota	12,531	7,520	7,488	+ 32
Nebraska	8,552	5,329	6,300	− 971
Colorado	14,773	11,760	14,640	−2,880
Idaho	12,849	16,198	14,308	+1,890
Montana	4,223	2,975	3,780	− 805
Washington	8,383	10,720	8,680	+2,040
Oregon	4,239	4,500	4,160	+ 340
California	8,466	6,923	6,837	+ 86
United States total	395,242	356,360	323,465	+32,895
Per cent of 5 year average	100.0	90.2	81.8	———
Per capita production	3.51**	3.03**	2.79**	———

* Yearbooks, United States Department of Agriculture; 1923, page 760; 1924, page 706; and Crops & Markets, December 1926, Vol. 3, Supplement 12, page 397.

** Assuming that an average population of 112,551,000 consumed the crops grown in 1921-1925, inclusive; a population of 115,940,000 as of Jan. 1, 1926; and 117,569,000 as of Jan. 1, 1927.

During the years 1921-1925, inclusive, New York State produced an average of approximately 35 million bushels of potatoes. Only 30 per cent of this production has moved to market in carload lots. Approximately 37 per cent of the total United States potato crop moved in carload lots during the same period. Based on the average percentage of total production shipped annually in carload lots by each State, an estimate has been made (Table 2, column 6) of the probable carload shipments from the 1926 crop for each of the important states. Comparative data concerning carload shipments by these states for past periods will also be found in this table. Through the courtesy of the Tabb Special Potato Service, there has also been included in this table (column 7) an estimate by a large number of potato dealers all over the United States of the probable number of carloads of potatoes which will be shipped from the 1926 crop. It will be noted that the two estimates coincide fairly closely and that approximately

TABLE 2. CARLOAD SHIPMENTS OF LATE WHITE POTATOES FROM FOURTEEN COMPETING STATES, 1921-1925, AND ESTIMATED SHIPMENTS FROM 1926 CROP
(One carload equals 600 bushels)

State	Average annual carlot shipments 1921-1925*	Carloads shipped 1925-26*	Carloads shipped this season to Jan. 22, 1927*	Carloads shipped last season to Jan. 23, 1926*	Statistical estimate of total carloads to be shipped from 1926 crop**	Potato dealers' estimate of total carloads to be shipped from 1926 crop‡
Maine	35,836	38,830	22,899	21,003	37,824	40,000
New York	17,728	11,595	9,461	8,542	14,585	14,250
Pennsylvania	4,674	6,027	1,579	5,083	4,154	3,000
Michigan	17,456	14,200	8,774	8,780	16,399	17,000
Wisconsin	16,384	15,944	9,126	10,416	15,515	16,665
Minnesota	29,408	23,233	14,244	14,905	23,264	25,000
North Dakota	8,040	4,812	3,261	3,412	4,825	4,500
Nebraska	4,606	4,342	2,506	3,023	2,871	3,750
Colorado	14,968	15,422	10,064	10,201	11,915	13,000
Idaho	15,367	18,271	11,334	10,480	19,373	17,600
Montana	1,188	1,503	383	878	837	1,000
Washington	6,617	8,978	6,361	4,998	8,462	9,145
Oregon	1,449	1,494	1,554	958	1,538	2,800
California	7,096	6,102	6,375	5,311	5,803	7,014
Total, 14 states	180,817	170,753	107,921	107,990	167,366	174,724
United States total	241,336	221,641	166,530	157,945	———	———

* United States Department of Agriculture, Yearbook 1925, page 920; and Market News Service, United States Department of Agriculture, January 27, 1927.

** Based on average percentage of production shipped in carload lots by each state during five-year period, 1921-1925, inclusive.

‡ Courtesy of Tabb Special Potato Service, Chicago, Ill. December, 1926.

65,000 carloads were still to be shipped after January 22, 1927, by these 14 states. This figure is almost identical with the number of carloads that were shipped after January 23, 1926.

From the data at hand, it appears that although there were apparently more potatoes available than last season, the 14 important states referred to have actually shipped up to January 22nd, 1927, about 70 carloads less than a year ago on the same date, while the United States as a whole has shipped over 8,500 carloads more. This is interesting in view of the fact that dealers of the country were of the opinion that there were on January 1st, 1927, only about the same quantity of marketable potatoes as there were a year ago.[2]

The Federal report on holdings of potatoes by growers and dealers as of January 1, 1926 was not published until February 21, 1926. The date of publication for 1927 has not been announced. It will be of considerable interest to growers and dealers who have potatoes in storage.

In considering market possibilities for the remainder of the 1926 potato crop, it may be well to note the large supply of potato substitutes available this year. The 1926 rice crop is estimated to be 23 per cent or 7,697,000 bushels larger than in 1925, and the 1926 onion crop 6.2 per cent or 1,202,000 bushels larger than last year.[3]

The 1926 sweet potato crop shows an increase of 21,339,000 bushels, or 34 per cent over the 1925 crop.[3] The southern market for late northern potatoes is further influenced by the low purchasing power of the south due to the large cotton crop. The tendency has been to consume more sweet potatoes and purchase sparingly of northern potatoes. There is a strong likelihood that southern farmers will increase early potato plantings in an effort to grow some other crop than cotton. Reports from Florida indicate a 15 per cent increase in potato acreage as compared with 1926. The Federal report on plantings and intentions to plant in the ten important early potato states may be expected around February 15th.

Preliminary estimates of the commercial acreage planted in cabbage, celery and spinach in the winter states for the 1927 season show an increase of 5,840 acres or 11.4 per cent more than in 1926.[4]

The Canadian potato crop for 1926 is estimated at 84.5 million bushels as compared with 70.6 million in 1925.[5] Canada exported the equivalent of approximately 8000 carloads of potatoes to the United States last season and was an important factor in limiting the market for potatoes from the United States in Cuba and the West Indies.[6] M. P. Rasmussen

COST OF MILK PRODUCTION BY FORMULA AND BY INVESTIGATION

Warren and Pearson were the pioneers in using the formula method in arriving at milk production costs. The method used in arriving at the formula cost presented here is the same as they used but the quantities used per 100 pounds of milk are different, being a modification of the quantities reported in another publication.[1] The quantities for the production of 100 pounds of milk used in determining the formula cost shown in Table 1 are: concentrates, 30 pounds; silage and other succulent feed, 100 pounds; dry forage, 60 pounds; labor 2.5 hours. These items represent 80 per cent of the cost of producing 100 pounds of milk.

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[2] Tabb Special Potato Service, Chicago, Ill. Special Bulletin 27, January 14, 1927.

[3] Crops and Markets, December, 1926, Vol. 3, Supplement 12, pages 390-391.

[4] Crops and Markets, December 1926, Vol. 3, Supplement 12, page 389.

[5] Canadian Department of Agriculture, Ottowa, Canada, Telegraphic report January 29, 1927.

[6] "Canada", Tabb Special Potato Service, Chicago, Ill. Special Bulletin 20, October 7, 1926.

[1] Misner, E. G., The Cost of Producing Milk and Some Factors Influencing the Cost. Proceedings of the World's Dairy Congress, Vol. 2, page 1101.

By applying the price for concentrates, succulent feed, dry forage and labor found in actual studies of the cost of milk in New York to the quantities just stated, the difference between the formula cost and the actual cost averaged 11 cents per 100 pounds of milk or 4 per cent for the six years shown in Table 1.

TABLE 1. COST OF MILK IN NEW YORK—BY FORMULA AND BY INVESTIGATION

Area	Year	Grade of milk	Cost per 100 pounds			
			*By formula	By investigation	Difference	
					Cents per 100	Per cent
Broome Co.	1915	B	$1.66	$1.69 (a)	—$.03	1.8
Herkimer Co.	1919	Condensery	3.37	3.60 (b)	— .23	6.4
Chenango Co.	1921	B	2.47	2.56 (c)	— .09	3.5
	1922	B	2.40	2.35 (d)	+ .05	2.1
	1923	B	2.54	2.44 (e)	+ .10	4.1
	1924	B	2.50	2.35 (f)	+ .15	6.4
Simple average					$.11	4.0

* Using prices found in the actual investigations.
(a) Cornell bulletin 409.
(b) Cornell bulletin 432.
(c) Cornell bulletin 441.
(d) Cornell bulletin 452.
(e) Cornell bulletin 455.
(f) unpublished manuscript.

E. G. Misner

INDEX NUMBERS OF WHOLESALE PRICES OF FERTILIZER MATERIALS

The agricultural depression has been accompanied by abnormal fluctuations in the fertilizer tonnage. Although the prices of farm products are the primary factors which effect fertilizer consumption, the prices of fertilizer materials are also important. The monthly wholesale prices of 20 fertilizer materials were tabulated from the Oil, Paint and Drug Reporter.[1] A weighted index number of the prices of 12 fertilizer materials was prepared from these prices. Weighted indexes were also made for phosphoric acid, mineral ammoniates, organic ammoniates and potash.[2] The materials were weighted according to the tonnage used it the United States.

The most striking features of the index numbers of prices of 12 fertilizer materials is the comparative stability for the 16 years, 1900-1915; the rise during inflation, 1915-20; the collapse with deflation, 1920-21; and the comparative stability at low prices for the 5 years, 1922-26. The 10 year period, 1898-1907, was a period of rising fertilizer prices. The index

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[1] The monthly prices of sulphate of ammonia from 1897-1916 inclusive were tabulated from Oil, Paint, and Drug Reporter, from 1917-26 from the Iron Trade Review.

The monthly prices of cottonseed meal 1897-1905 inclusive, were tabulated from the Statistical Reports of the New York Produce Exchange. From 1906-1926, the prices were obtained from FARM ECONOMICS. No. 35, page 479, June 1926.

The monthly prices of the following fertilizer materials were tabulated from the Oil, Paint, and Drug Reporter; 66° Baume, sulphuric acid at New York, 1897-1926; 68 per cent Florida land pebble at mines, 1904-1926; 75 per cent Tennessee phosphate rock at mines, 1901-1926; acid phosphate at Baltimore, 1897-1926; raw ground bones at Chicago, 1905-1926; ground steamed bones at Chicago, 1897-1926; tankage 11 per cent ammonia, 15 per cent bone phosphate of lime at Chicago, 1904-1925; concentrated tankage 14-15 per cent ammonia at Chicago, 1904-26; high grade ground blood at Chicago, 1904-25; dried blood 15-17 per cent ammonia at New York City, 1904-25; fish scrap, wet acidulated, 6 per cent ammonia, 3 per cent bone phosphate of lime at factory, 1903-26; fish scrap 11 per cent ammonia, 15 per cent bone phosphate of lime, 1904-26; nitrate of soda at New York, 1902-26; muriate of potash at New York, 1897-1926; sulphate of potash at New York, 1897-1926; double manure salts at New York, 1897-1926; manure salts at New York, 1904-26; kainit at New York, 1904-26.

(*Footnote 2 on page 622*)

TABLE 1. INDEX NUMBERS OF PRICES OF 12 FERTILIZER MATERIALS, 1897-1926.
(Potash omitted 1915-20,* Corresponding months 1910-14 = 100.**)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av
1897	92	92	92	91	88	87	88	88	88	88	88	88	89
1898	88	88	84	84	85	91	102	102	102	101	102	101	94
1899	102	102	102	102	103	104	103	103	103	100	96	96	101
1900	102	103	107	106		105	106	109	109	109	108		107
1901							105	105	104	105	105	104	
1902	105	105	105	106	106	106	106	106	105	106	106	106	106
1903	107	107	109	109	109	109	109	109	108	108	109	108	109
1904	109	109	109	109	109	109	109	109	109	109	110	110	109
1905	110	109	109	109	109	109	109	108	108	108	109	109	109
1906	109	109	110	110	110	110	110	110	109	110	110	110	110
1907	111	111	111	112	112	112	112		121	121	121	120	115
1908	119	114	103	100	101	102	102	102	102	102	98	97	103
1909	102	102	103	103	103	104	104	102	101	101	102	103	102
1910	103	103	103	103	103	103	106	109	109	110	110	109	106
1911	110	110	109	108	106	107	101	99	99	99	99	98	104
1912	98	98	99	99	99	100	99	98	98	99	98	98	99
1913	98	98	98	98	98	99	99	94	94	94	94	96	97
1914	96	96	96	96	96	94	93	94	94	94	94	94	95
1915	93	93	94	94	93		91	90	93	104	135	141	101
1916	142	141	141	140	140	140	139	124	125	126	129	131	135
1917	136	138			161	171	180	183	191	203	195		169
1918					207	208	209	208	209	210	193	200	
1919	198					181	192	204	210	207	209	220	
1920	225				222	229	243	240	236	230	203	188	224
1921	175	163	158	149	138	129	123	125	128	127	115	112	136
1922	113	113	114		101	104	112	110	109	116	108	120	110
1923	114				106	103	102	101	100	104	103	100	107
1924			95	94	92	93	95	102	102	100	104	106	98
1925	105	105	105	104	109	109	112	112	112	111	111	110	109
1926	113	113		116	112	112	114	113	112	105	103	103	111
1927													

* There were practically no imports of potash 1915-20.
** Phosphoric acid 1910-14 = 100, other materials corresponding months 1910-14 = 100.

numbers increased from 84 in March 1898 to 121 in September 1907. For the following 8 years, 1907-1914, prices gradually declined, reaching a low point (93) in July 1914. As there was a consistent increase in the general price level for the 17 years, 1897-1913, fertilizer became cheap relative to other commodities. Farm prices increased even more rapidly than the general price level so that the purchasing power of farm products in terms of fertilizer materials increased. That is, there was an increase in the amount of fertilizer materials that could be purchased with a pound of cotton, tobacco, potatoes or corn. This was accompanied by a rapid growth of the fertilizer tonnage for the 15 years, 1900-14.

During the period of inflation, fertilizer prices increased. In July 1920, the index number of the prices of 12 fertilizer materials was 243 per cent of prewar. During the deflation period prices fell rapidly. In May 1922, the index was 101, a decline of 142 points in 22 months. After a slight re-

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[2] The weights used in making the aggregative index numbers of wholesale prices of 12 fertilizer materials, phosphoric acid, organic ammoniates, mineral ammoniates, and potash were as follows:

A. Phosphoric acid group, acid phosphate, 4,600,000 tons; raw ground bones, 102,000 tons; ground steamed bones, 57,000 tons.

B. Organic ammoniate group, cottonseed meal, 280,000 tons; tankage 11 per cent ammonia 15 per cent bone phosphate, 790,000 tons; fish scrap 260,000 tons.

C. Mineral ammoniate group, nitrate of soda, 153,000 tons; sulphate of ammonia 143,000 tons.

D. Potash group, muriate of potash, 215,000 tons; sulphate of potash, 41,000 tons; manure salts 209,000 tons; kainit, 405,000 tons.

The weights with the exception of those for the potash salts were obtained from the data given in the 1914 and 1919 Census of Manufactures. The potash salts were weighted according to the average imports for the 36 months, July 1911 to June 1914, inclusive.

Prices for all the series were not available for the entire period, 1897-1926. Phosphoric acid index is based on the prices of acid phosphate and steamed bones, for the 6 years, 1897-1902, and for 1926; for the 4 years 1903, 1904, 1907 and 1908 the index is based on the prices of acid phosphate. Mineral ammoniates index is based on the prices of sulphate of ammonia for the 61 months January 1897-January 1902, inclusive. Organic ammoniate index is based on the prices of ammonia in tankage, cottonseed, meal, and fish scrap. For the 7 years, 1897-1903, the prices of ammonia in tankage were not available. For the 6 years 1904-09, the price of ammonia in tankage was 87.67 per cent of the price of ammonia in blood. The prices of ammonia in tankage used in making the organic ammoniate index for the 7 years, 1897-1903 are 87.7 per cent of the price of ammonia in blood. Potash index, for the 4 years, 1897-1900, is based on the prices of muriate and sulphate of potash; for the 3 years 1901-1903, the index is based on the prices of muriate, sulphate and manure salts. The index number of 12 fertilizer materials does not include the potash salts for the 6 years, 1915-1920, when there were practically no imports.

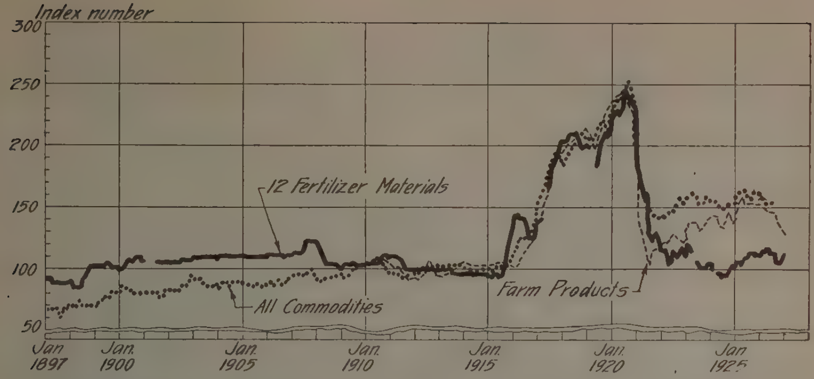

FIGURE 1.—INDEX NUMBERS OF PRICES OF 12 FERTILIZER MATERIALS, ALL COMMODITIES, AND FARM PRODUCTS.

The index number of fertilizer materials is now lower than all commodities and farm products.

covery in prices in the fall of 1922, prices declined until they were only 92 per cent of prewar in May 1924. Since then, they have increased slightly.

For the 5 years, 1922-26, the prices of fertilizer materials have averaged 107 per cent of prewar. The index number of wholesale prices for the same period averaged 155. Fertilizer materials have been, and still are, very cheap in comparison with other commodities. During 1922-26, the purchasing power of fertilizers was only 68 per cent of prewar.

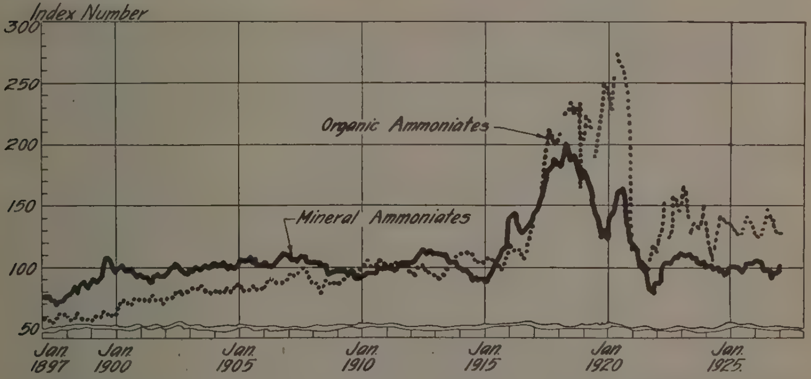

FIGURE 2.—INDEX NUMBERS OF PRICES OF MINERAL AMMONIATES AND ORGANIC AMMONIATES.

Mineral ammoniates are now much cheaper than organic ammoniates.

Organic Ammoniates

During the 17 year period, 1897-1913, there was a decided general upward trend in prices of organic ammoniates. The index number rose from 59 in 1897 to 97 in 1913. The average annual increase in the index was 2.6 points. During the same years the price of mineral ammoniates and potash remained relatively constant, while phosphoric acid declined. The rapid increase in the price of organic ammoniates was probably due to an increase in the demand for cottonseed meal, tankage and fish scrap for feeding purposes.

TABLE 2. INDEX NUMBERS OF PRICES OF ORGANIC AMMONIATES, 1897-1926.
Corresponding Months 1910-14 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av
1897............	58	58	57	57	57	57	59	60	62	62	63	61	59
1898............	61	60	58	58	61	62	61	59	58	58	59	57	59
1899............	58	59	58	59	60	65	64	62	62	62	61	61	61
1900............	67	73	73	73		70	70	72	73	74	75		72
1901............							76	74	72	74	73	72	
1902............	75	74	74	76	80	80	80	78	78	81	81	80	78
1903............	82	82	83	83	83	84	83	81	80	80	82	79	82
1904............	81	82	81	79	79	81	83	80	81	83	85	85	82
1905............	85	83	81	80	80	82	84	82	82	82	84	83	82
1906............	86	87	89	87	90	90	90	87	87	87	89	90	88
1907............	92	93	93	93	95	98	97		91	90	88	85	92
1908............	86	84	78	77	81	84	89	87	87	88	87	85	84
1909............	86	86	86	88	90	93	95	91	90	90	94	97	90
1910............	101	101	101	105	101	99	99	100	100	102	103	100	101
1911............	101	102	98	96	96	102	103	101	100	100	99	96	100
1912............	95	96	99	97	99	100	99	95	95	95	93	91	96
1913............	91	90	90	91	93	95	100	101	101	99	102	110	97
1914............	111	111	111	112	110	103	99	104	104	104	103	103	106
1915............	104	105	105	105	104		90	87	86	90	115	116	100
1916............	117	113	111	109	110	111	106	108	113	118	131	138	115
1917............	140	145	145	149	158	177	199	211	202	200	203		177
1918............					221	226	232	227	231	233	164	226	
1919............	219					187	205	238	248	233	243	243	
1920............	251				273	266	266	250	234	214	156	115	232
1921............	114	111	106	105	102	97	97	93	103	117	107	111	105
1922............	122	128	152		122	127	157	151	144	142	158	168	142
1923............	139				125	131	133	128	129	148	146	130	141
1924............			116	111	104	108	121	140	144	136	138	135	124
1925............	129	127	125	123	125	124	139	140	135	135	131	125	130
1926............	124	123		122	125	130	143	138	135	128	128	127	129
1927............													

Organic ammoniates reached a peak of 273 per cent of prewar in May 1920. They declined rapidly during the latter part of 1920, and reached a low point of 93 per cent of prewar in September 1921, or declined 180 points in 15 months.

During the five years, 1922-26, the price of organic ammoniates has averaged 133 per cent of prewar. During the same time, mineral ammoniates have averaged 100 per cent of prewar.

The large cotton crop of 1926 has been accompanied by a decided decrease in the price of cottonseed meal; in December 1926 cottonseed meal was only 110 per cent of prewar.

TABLE 3. INDEX NUMBERS OF PRICES OF MINERAL AMMONIATES, 1897-1926.
Corresponding Months 1910-14 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1897............	75	75	74	72	73	72	72	69	71	72	75	79	74
1898............	79	85	82	77	78	85	86	87	86	84	87	88	84
1899............	90	88	89	92	99	107	108	107	102	98	95	97	98
1900............	98	99	101	98	95	96	96	97	92	92	93	94	96
1901............	93	91	90	87	91	92	93	92	92	93	94	93	92
1902............	94	99	99	102	98	100	97	93	93	92	94	97	97
1903............	96	96	100	98	97	100	100	101	100	99	99	102	99
1904............	102	101	101	102	104	99	100	99	98	99	103	106	101
1905............	104	105	104	105	108	103	104	101	101	101	102	102	103
1906............	100	100	100	100	101	102	103	105	106	108	110	109	104
1907............	105	105	104	109	109	108	108	107	103	103	103	104	106
1908............	103	103	102	101	100	101	101	101	93	95	96	97	100
1909............	96	97	97	95	95	97	97	95	90	90	90	91	94
1910............	91	91	93	92	92	93	94	94	95	96	97	98	94
1911............	98	98	98	97	97	98	101	103	102	103	103	104	100
1912............	103	103	103	107	109	111	110	110	110	111	110	111	108
1913............	111	112	111	110	110	107	106	102	102	104	102	99	106
1914............	97	96	95	94	92	90	89	90	90	87	87	88	91
1915............	87	94	100	100	102	105	111	114	110	116	124	138	108
1916............	140	144	142	132	126	126	126	128	128	132	136	143	134
1917............	140	148			159	169	175	177	182	187	185	183	168
1918............	180	184		201	201	185	190	184	176	169	171	179	184
1919............	173	169	157	151	148	143	123	125	122	124	130	134	142
1920............	135	145	158	158	157	160	162	165	157	141	128	119	149
1921............	117	114	106	99	99	96	91	80	79	86	86	87	95
1922............	87	91	102	103	101	102	103	101	101	103	106	110	101
1923............	108	109	110	110	108	107	107	106	103	104	103	102	106
1924............	99	99	99	98	98	99	96	95	93	96	97	100	97
1925............	100	100	99	97	95	94	96	100	101	104	105	105	100
1926............	105	103	102	100	98	97	94	92	92	93	96	98	98
1927............													

Mineral Ammoniates

From 1897 to 1907, the index number of the price of mineral ammoniates rose from 74 to 106. Prices were high during the World War when there was a large demand by war industries for nitrate of soda. In April and May of 1918, mineral ammoniates were 201 per cent of prewar. When the United States entered the war, the government assumed complete control of the explosive endustry. With deflation prices declined reaching a low point, 79 per cent of prewar in September 1921. For the 5 years, 1922-26, the index number of the price of mineral ammoniates, has been relatively constant at about the prewar level.

During the 14 year period, 1902-1915, the prices of sulphate of ammonia and nitrate of soda moved more or less together. During the World War, however, the index of the price of nitrate of soda rose higher than sulphate of ammonia. The peaks were 223 and 183 respectively. When compared with prewar prices, sulphate of ammonia is now considerably cheaper than nitrate of soda. For the 6 years 1921-26, sulphate of ammonia has averaged 89 per cent of prewar and nitrate of soda 112 per cent of prewar.

Phosphoric Acid

For the 17 year period, 1897-1913, there was a general downward trend in the price of phosphoric acid. The average annual decrease in the index numbers was 0.4 points, Figure 3.

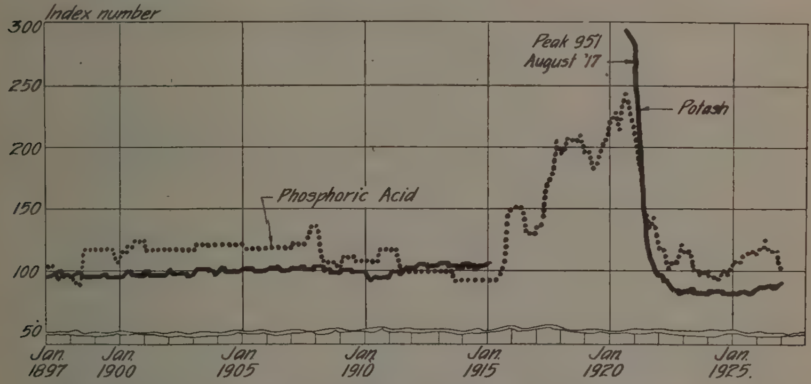

FIGURE 3.—INDEX NUMBERS OF PRICES OF POTASH AND PHOSPHORIC ACID. Potash prices are below prewar, while phorphoric acid prices are slightly above.

Acid phosphate is the major source of phosphoric acid in commercial fertilizers. It is made by treating raw rock phosphate with sulphuric acid. Prices of sulphuric acid declined from an index of 144 in 1901 to 100 in 1909. During the 8 year period 1908-15, the index number of the price of phosphate rock at the mines declined from 124 to 77. The decrease in the price of phosphoric acid was due primarily to decreases in the prices of the materials from which it is made.

Phosphoric acid was high in price during the World War and postwar inflation period. The peak was reached in August 1920 when prices were 242 per cent of prewar. With the deflation and the agricultural despression that followed, the index number of the price of phosphoric acid fell to 98 in May 1922, or declined 154 points in 21 months. After a slight recovery in 1923 the index declined to 90 in July 1924. This was the lowest price for the 30 year period, 1897-1926. In 1926, the index was 112, farm prices in the United States were 143 and wholesale prices of all commodities in the United States were 154.

TABLE 4. INDEX NUMBERS OF PRICES OF PHOSPHORIC ACID, 1897-1926.
1910-14 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av
1897	102	102	102	100	95	95	95	95	95	95	95	95	97
1898	95	94	89	89	89	98	116	116	116	116	116	116	104
1899	116	116	116	116	116	116	116	116	116	112	106	106	114
1900	114	114	118	118	118	117	119	123	123	123	121	116	119
1901	116	116	116	116	116	116	116	116	116	116	116	116	116
1902	116	116	116	116	116	116	116	116	116	116	116	116	116
1903	117	117	118	119	119	119	119	119	119	119	119	119	119
1904	119	119	119	119	119	119	119	119	119	119	119	119	119
1905	119	118	118	118	118	118	118	118	118	118	118	118	118
1906	118	118	118	118	118	118	118	118	118	118	118	118	118
1907	119	119	119	119	119	119	119	127	135	135	135	135	125
1908	133	126	111	107	107	107	107	107	107	107	102	100	110
1909	108	108	108	108	108	108	108	107	106	106	106	106	107
1910	106	106	106	106	106	106	111	116	116	116	116	116	111
1911	116	116	116	114	112	112	101	98	98	98	98	98	107
1912	98	98	98	98	98	98	98	98	98	98	98	98	98
1913	98	98	98	98	98	98	98	90	90	90	90	90	95
1914	90	90	90	90	90	90	90	90	90	90	90	90	90
1915	90	90	90	90	90	90	90	90	94	107	141	149	101
1916	149	149	149	149	149	149	149	128	128	128	128	128	140
1917	135	135	135	140	162	170	175	175	188	205	193	192	167
1918	193	204	204	204	204	204	204	204	205	206	203	194	202
1919	194	194	192	183	178	182	193	200	205	205	205	219	196
1920	224	224	217	214	212	223	241	242	241	240	221	212	226
1921	185	172	170	164	150	140	132	139	142	138	124	118	148
1922	116	114	108	99	98	102	105	105	105	116	100	115	107
1923	114	114	114	115	105	99	98	97	96	96	96	95	103
1924	95	92	91	91	91	91	90	97	96	94	99	103	94
1925	104	104	104	104	110	111	111	111	112	111	111	111	109
1926	116	117	121	122	115	113	113	113	113	103	100	100	112
1927													

Potash

For the 17 year period 1897-1913, the price of potash salts remained relatively constant. The lowest prices for this period were in 1899 when the index number was 94 and the highest in 1913 when the index number was 103. Imports increased rapidly during this period.

TABLE 5. INDEX NUMBERS OF PRICES OF POTASH, 1897-1926.
Corresponding Months 1910-14 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av
1897	94	95	96	97	97	97	95	95	95	95	95	95	95
1898	95	96	97	97	97	97	95	95	95	95	95	96	96
1899	95	95	95	96	96	95	94	94	93	94	94	94	94
1900	94	95	98	98	98	97	96	96	96	96	96	96	96
1901	96	97	99	99	98	98	96	96	96	96	96	96	97
1902	97	98	99	99	98	98	95	96	95	95	96	96	97
1903	96	97	100	101	100	100	98	98	98	98	98	97	98
1904	99	100	102	102	101	101	99	99	99	99	99	99	100
1905	100	100	102	102	102	101	100	100	99	99	99	100	100
1906	101	101	102	102	102	101	100	100	99	99	99	100	100
1907	101	101	102	102	102	101	100	100	100	101	101	101	101
1908	102	102	99	100	100	99	98	97	97	97	97	97	99
1909	98	99	100	100	100	99	98	98	97	97	97	97	98
1910	98	95	91	91	91	93	93	93	93	93	93	93	93
1911	94	95	96	96	95	95	100	100	102	101	101	100	98
1912	101	102	103	103	104	104	102	102	101	102	102	102	102
1913	103	104	105	105	104	104	102	101	101	101	101	101	103
1914	104	104	105	105	105	104	103	103	103	103	104	104	104
1915	105						565	579	569	569	789	952	540
1916	924	895	841	828	773	689	659	677	692	823	847	848	791
1917	831	839	849	823	813	773	737	951	902	852	860	896	775
1918	896	901	910	908	905	834	789	747	745	749	747	744	822
1919	727	726	683	692									
1920		394	377	357	349	330	325	333	305	292	288	270	333
1921	228	205	185	154	140	126	122	116	112	102	94	93	133
1922	94	94	93	93	87	83	84	84	84	83	81	81	87
1923	82	83	84	84	82	81	80	80	80	80	80	80	81
1924	81	82	83	82	82	82	80	80	80	81	81	81	81
195	82	82	83	83	83	83	81	81	81	83	84	84	83
1926	85	85	86	86	87	87	85	85	85	85	88	89	86
1927													

There were practically no importations into the United States during and immediately following the World War. Prices were extremely high. In 1918, the index number of the prices for potash salts was 822. The index of the price of muriate of potash for the 2 years 1916 and 1917 was 1057 and 1035.

Importations were resumed during the latter part of 1919 and 1920 just before deflation took place and prices declined rapidly. For the 5 years, 1922-26, prices have averaged only 83 per cent of prewar. During the same period, the index number of wholesale prices of the United States Bureau of Labor Statistics averaged about 155 and farm prices 143 per cent of prewar. In this period very few commodities sold for less than their prewar average price. Of 24 important agricultural commodities, only 2, barley and horses, sold for less than their prewar average price.

During the postwar period, one of the most important features of the fertilizer situation has been the relatively low prices of fertilizer ingredients. Fertilizer materials have been below the general level of wholesale prices of all commodities. Many are also below the level of farm prices in the United States. For the 5 years 1922-26, organic ammoniates average 133 per cent of prewar; phosphoric acid 106 per cent; mineral ammoniates 100 per cent; and potash 83 per cent of prewar. Potash has been consistently cheaper than the other fertilizer ingredients.

E. E. VIAL

SOME FACTORS AFFECTING THE OPERATION OF RETAIL FEED STORES

Volume of business appears to be the most important single factor in efficient operation of retail feed stores. Sufficient volume enables the manager to buy more efficiently, by taking advantage of temporary sags in the market, by buying in straight instead of mixed cars, and by buying bulk instead of sacked feed. Frequent temporary sags in the market offer an opportunity to save, if the sales are large enough to absorb the purchase quickly. The differential between the straight and mixed car price is usually $2.00 per ton. At the present price of sacks, a saving of $2.00 to $4.00 may be effected by buying in bulk. Many stores now buy their gluten in bulk and the larger stores are in a position to buy other ingredients in bulk, with the consequent saving in sacks. Some loss may occur on bulk shipments due to shrinkage. Sacked goods are not so liable to this loss.

The effect of volume and grinding for 33 private retail feed dealers is shown in Table 1.

TABLE 1. GROSS MARGIN, TOTAL EXPENSE AND OPERATING INCOME ACCORDING TO VOLUME FOR 20 STORES GRINDING AND 13 NOT GRINDING, 1924

	No Grinding				Grinding			
		Percent of net sales				Percent of net sales		
Net sales	No. of Stores	Gross Margin	Total Expense	Operating Income	No. of stores	Gross Margin	Total Expense	Operating Income
Under $60,000	6	12.5	12.0	+0.5	6	10.2	13.6	−3.4
$60,000-10,0000	5	10.1	8.5	+1.6	7	12.4	13.7	−1.3
Over $100,000	2	10.2	8.2	+2.0	7	13.9	11.1	+2.8
Average	13	11.2	10.0	+1.2	20	12.3	12.8	−0.5

In the 13 stores doing no grinding the gross margin and total expense decreased with volume while the operating income increased. While the small number of stores makes it inconclusive, this would indicate that the larger stores were more efficient, having lower expense ratios with greater profits.

Larger volume also permits better use of grinding equipment. The receipts from custom grinding form only a small source of income in the average store. The larger store which can buy corn and oats in bulk to make its own corn meal and ground oats thus absorbs part of the overhead of the grinding equipment and increases its profits. The figures in Table 1 for the twenty stores doing grinding show that the larger stores took greater margins, had lower expense ratios and had higher operating income ratios than the smaller units.

The larger stores used their man labor more efficiently as indicated by Table 2.

TABLE 2. SALES PER MAN UNIT ACCORDING TO VOLUME FOR 19 STORES GRINDING AND 13 NOT GRINDING, 1924

Net sales	Number of stores	No grinding	Number of stores	Grinding
Under $60,000	6	$22,976	5	$19,931
$60,000-100,000	5	40,023	7	27,675
Over $100,000	2	42,986	7	36,895
Average	13	$32,611	19	$29,043

The stores doing grinding had lower sales per man unit than the stores doing no grinding.

One of the measures of capital as well as merchandising efficiency is inventory turnover. The average operating figures in Table 3 show that the stores having larger turnovers had larger operating incomes in spite of lower gross margins and total expenses.

TABLE 3. GROSS MARGINS, EXPENSES AND OPERATING INCOME ACCORDING TO INVENTORY TURNOVER.
44 Retail Stores, 1924.

Inventory turnover, times per year	Number of stores	Average inventory turnover	Percent of net sales		
			Average gross margin	Average total expense	Average operating income
7 or less	16	5.8	12.9	13.3	−0.4
7.1-13	17	9.8	11.3	10.6	+0.7
Over	11	17.6	7.7	6.6	+1.1

Credit management is another measure of capital efficiency. The amount of credit extended and the time credit was extended in stores of different volumes is shown in Table 4. Although the different groups did approximately the same proportion of credit business the larger stores allowed their credit to run a much shorter time than the smaller stores.

TABLE 4. CREDIT EXTENDED BY 33 RETAIL FEED STORES, 1924

Net sales	Number of stores	Percent business credit	Number of days credit sales on books
Under $60,000	12	73.0	114
$60,000-100,000	12	76.1	90
Over 100,000	9	76.3	77

The stores, when grouped according to number of days credit sales on the books at the end of the year, (Table 5,) show a decided increase in total expense while the operating income decreases with the added extension of credit. This increase is due primarily to the long time extension of credit, but also to the fact that the stores with poor credit management were less efficient in other ways.

TABLE 5. TOTAL EXPENSES ACCORDING TO NUMBER OF DAYS CREDIT SALES ON BOOKS AT THE END OF YEAR
33 Retail Stores, 1924.

Days credit sales on books at end of year	Number of stores	Percent net sales	
		Total expense	Operating income
60 and under	11	8.5	1.6
60.1-120	13	11.3	1.2
120.1 and over	9	16.1	−3.0

E. A. PERREGAUX

CHANGES IN THE NUMBER OF HORSES AND MULES IN CITIES

The number of horses and mules in 19 cities decreased approximately 71 per cent from 1910 to 1925, and decreased one-third from 1920 to 1925. Table 1 shows the horse and mule population for nineteen cities from 1910 to 1925. Table 2 shows the numbers of horses and mules per thousand of human population in 1910, 1920 and 1925. Table 3 is a year by year comparison of the trends for three large cities from 1917 to 1925.

The extent to which the displacement of horses may go, and in some instances has already gone, is well illustrated by the cases of Toledo, Ohio, San Francisco, California, and Springfield, Massachusetts. If New York were to reduce the numbers of its horse and mule population to the San Francisco ratio, approximately 21,000 horses would be displaced. This might reduce the hay requirements of the city by about 50,000 tons or the equivalent of the production of thirty to forty thousand acres.

If the trend indicated by the average of the nineteen cities in Table 1 is assumed to be fairly typical of conditions in the eastern United States, the demand for hay for horses not on farms in that area has decreased about one-third since 1920, and is at present falling at an annual rate of about 4 per cent of the 1920 figure.

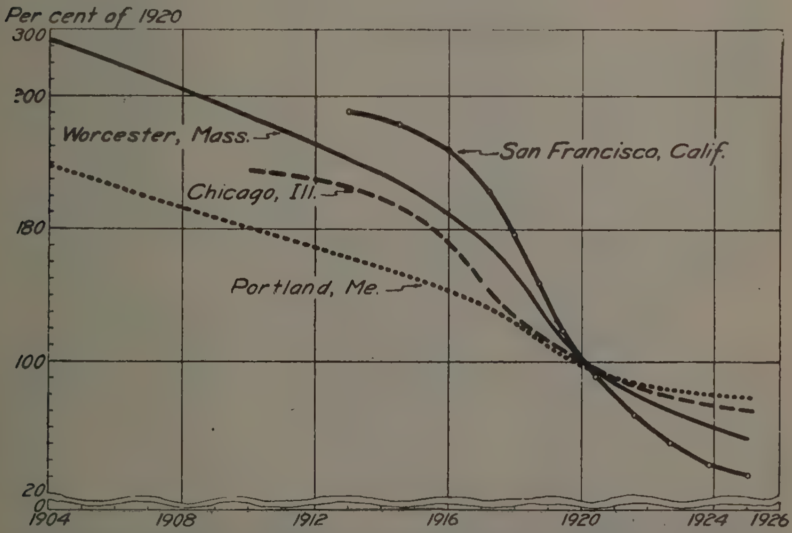

FIGURE 1. TREND OF HORSE AND MULE POPULATION IN FOUR CITIES: SAN FRANCISCO, CAL., WORCESTER, MASS., CHICAGO, ILL., PORTLAND, ME.

There was a sharp decline in the number of horses and mules in these four cities. Since 1921 the decline has been less rapid.

TABLE 1. POPULATION AND NUMBER OF HORSES AND MULES IN CITIES

City	Population* 1925	Number of horses and mules			Percentage of number in 1910		Percentage of number in 1920
		1910 Census	1920 Census	1925 Estimate	1920	1925	1925
Portland, Me.	75,000	1,903	1,174	929	61.7	48.8	79.1
Duluth, Minn.	109,000	3,015	1,215	810	40.3	27.1	66.7
Springfield, Mass.	150,000	3,213	1,132	477	35.2	14.8	42.1
Hartford, Conn.	158,000	3,638	1,281	783	35.2	21.5	61.1
New Haven, Conn.	177,000	4,338	1,575	1,077	35.9	24.8	68.4
Worcester, Mass.	197,000	4,481	1,844	977	41.2	21.8	53.0
St. Paul, Minn.	245,000	9,061	3,549	2,435	39.1	26.9	68.6
Denver, Colo.	278,000	11,605	3,818	2,138	32.9	18.4	56.0
Toledo, O.	281,000	4,959	1,682	1,029	34.0	20.7	61.2
New Orleans, La.	411,000	13,293	7,667	5,168	57.7	38.9	67.4
Cincinnati, O.	420,000	15,102	5,581	3,138	37.0	[illegible]0.8	56.2
Washington, D. C.	491,000	13,368	4,338	2,740	32.4	20.5	63.2
San Francisco, Cal.	552,000	21,828	5,725	1,809	26.2	8.3	31.6
Pittsburgh, Pa.	616,000	13,451	6,508	3,586	48.4	26.7	55.1
Boston, Mass.	787,000	23,033	10,137	8,952	44.0	38.9	88.3
St. Louis, Mo.	816,000	31,339	13,276	8,603	42.4	27.5	64.8
Baltimore, Md.	821,000	17,146	8,199	5,591	47.8	32.6	68.2
Chicago, Ill.	2,960,000	69,298	31,173	22,288	45.0	32.2	71.5
New York City	5,873,356**	129,331	57,712	39,879	44.6	30.8	69.1
Total nineteen cities	15,417,356	393,402	167,586	112,409	42.6	28.6	67.0

*Population estimated on the basis of a straight line trend from 1910 to 1925.
** State population census of 1925, p. 102.

TABLE 2. HORSES AND MULES PER THOUSAND PERSONS

City	Population*	Number of horses and mules per thousand persons		
	1925	1910	1920	1925
Portland, Me.	75,000	32.5	16.9	12.4
Duluth, Minn.	109,000	38.4	12.3	7.4
Springfield, Mass.	150,000	36.1	8.7	3.2
Hartford, Conn.	158,000	36.8	9.3	5.0
New Haven, Conn.	177,000	32.5	9.7	6.1
Worcester, Mass.	197,000	30.7	10.3	5.0
St. Paul, Minn.	245,000	42.1	16.5	10.4
Denver, Colo.	278,000	54.4	14.9	7.7
Toledo, Ohio	281,000	29.4	6.9	3.7
New Orleans, La.	411,000	39.2	19.8	12.6
Cincinnati, Ohio	420,000	41.5	13.9	7.5
Washington, D. C.	491,000	40.4	9.9	5.6
San Francisco, Cal.	552,000	52.3	11.3	3.3
Pittsburgh, Pa.	616,000	25.2	11.1	5.8
Boston, Mass.	787,000	34.3	13.6	11.4
St. Louis, Mo.	816,000	45.6	17.2	10.5
Baltimore, Md.	821,000	30.7	11.2	6.8
Chicago, Ill.	2,960,000	31.7	11.5	7.5
New York City	5,873,356**	27.1	10.3	6.8
Total nineteen cities	15,417,356	32.6	11.6	7.3

*Population estimated on the basis of a straight line trend from 1910 to 1925.
**State population census of 1925, p. 102.

TABLE 3. NUMBER OF HORSES AND MULES IN THREE CITIES.
1920 = 100

Year	New York City[1]	New York City[2]	Chicago[3]	Baltimore[3]
1917	155.9	158.9	149.1	144.8
1918	129.4	135.3	126.5	118.8
1919	113.3	115.5	111.8	107.7
1920	100.0	100.0	100.0	100.0
1921	91.2	89.7	91.2	93.0
1922	83.8	81.6	84.4	86.5
1923	77.9	76.5	79.4	80.2
1924	73.5	73.6	75.0	74.0
1925	69.1	72.0	71.5	68.2

[1] Based on ferry crossings.
[2] Based on Board of Health enumeration. Figures for only four years are available. Typical form of curve fitted by inspection.
[3] Based on vehicle licenses.

M. F. Thurston

TENURE, CAPITAL AND INCOME ON SOME NEW YORK FARMS

Recent changes in the farm tenure situation in New York are largely explained by the low returns from farming and the relatively prosperous conditions of the wage earning classes. For the five-year period, 1920-1924, the index number for prices of all commodities was 169; for wages paid to New York factory workers it was 211; and for prices of New York farm products it was 153. Such a disparity in purchasing power resulted not only in many tenants leaving the farms, but also in influencing young men, who normally would have become tenants to seek other occupations. Landlords found it difficult to get tenants. Owners who formerly hired managers, could no longer afford to do so. Many of these owners and landlords had to choose between operating their own farms or letting them stand idle.

From 1920 to 1925, there was a decrease of 4,441 in the number of farms in New York. Accompanying this was a decrease of 10,558 in the number of farms operated by tenants, a decrease of 2,115 in the number of farms operated by hired managers and an increase of 8,232 in the number of farms operated by owners or part-owners. The number of farms operated by managers decreased more than one half and the number of tenant farms decreased more than one fourth.

TABLE 1. CHANGES IN THE NUMBER OF FARMS IN NEW YORK STATE UNDER DIFFERENT CLASSES OF OPERATORS AS REPORTED BY THE UNITED STATES CENSUS—1880-1925

	Owners		Tenants		Managers*		All farms
Census year	Number of farms	Percentage of total	Number of farms	Percentage of total	Number of farms	Percentage of total	Number
1880	201,186	83.5	39,872	16.5			241,058
1890	180,472	79.8	45,751	20.2			226,223
1900	168,698	74.4	54,203	23.9	3,819	1.7	226,720
1910	166,674	77.3	44,872	20.8	4,051	1.9	215,597
1920	151,717	78.5	37,102	19.2	4,376	2.3	193,195
1925	159,949	84.7	26,544	14.1	2,261	1.2	188,754

*Previous to 1900, farms operated by hired managers were included under owner farms.

Several factors besides prices influence returns in farming. One of these is capital. If sufficient capital is available it is easier to make interest on investment and pay for the operator's time. On rented farms, owner and operator combine their capital and divide the returns. Tenants usually have the use of more capital than do farmers who own the farms that they operate. Share tenants have the use of more capital than do cash tenants. The average capital per farm for different tenure groups in selected areas in this state is given in Table 2.

TABLE 2. RELATION OF CAPITAL TO FORM OF TENURE

		Average Capital per Farm for:					
County	Year	Owners	Part owners	Cash Tenants	Share Tenants	Share-Cash Tenants	All Farms
Jefferson	1910	$ 8,347	$ 9,178	$ 9,514	$ 9,919	$11,519	$ 9,006
Tompkins	1917	8,157	8,216	8,793	10,621	7,877	8,561
Livingston	1918	18,233	19,191	30,574	17,878	25,756	18,859
5 Counties	1921	14,884	15,214	13,236	16,512	—	15,143
Niagara	1923	15,343	19,880	8,596	21,733	—	16,441

Owners of cash rented farms commonly furnish the farm only. On share rented farms the owners often furnish a large share of the stock and tools.

TABLE 3. LANDLORD'S INVESTMENT

County	Per cent of landlord's capital in:			
	Real estate		Stock, tools and supplies	
	Cash rent	Share rent	Cash rent	Share rent
Jefferson	97	88	3	12
Tompkins	87	83	13	17
Livingston	100	91	0	9
5 Counties	95	82	5	18
Niagara	100	96	0	4

Returns to owner operators depend on how effectively they conduct their business. Returns to tenants and landlords depend on effectiveness in the conduct of the business and bargaining skill. The degree of risk and responsibility assumed by either tenant or landlord influences the division of returns that is agreed upon. Cash renting is most suitable to absentee ownership. Share renting is usually followed if the landlord lives nearby and is able and willing to take some of the responsibility of supervision and to supply some of the working capital.

TABLE 4. RELATION OF INCOME TO FORM OF TENURE

County	Year	Operator's labor income					Landlord's per cent return on investment			
		Owners	Part owners	Cash tenants	Share tenants	Share-cash tenants	Part owners	Cash tenants	Share tenants	Share cash tenants
Jefferson	1910	$534	$554	$733	$431	$896	7.1	3.6	8.1	7.3
Tompkins	1917	341	333	864	447	540	8.4	0.8	8.5	3.8
Livingston	1918	168	207	620	279	548	5.9	3.0	5.6	4.7
5 Counties	1921	118	474	472	284	—	5.2	4.0	5.6	—
Niagara	1923	−286	−91	157	111	—	—	2.7	3.6	—

Farm labor income rather than operator's labor income is the measure of success of the farms as a whole. The landlords of share-rented farms are usually experienced farmers. Presumably their knowledge contributes to the success of the farm. As Table 4 shows, share tenants do get the smallest share of returns and as Table 5 shows share tenant farms are very effectively operated as compared to other groups.

TABLE 5. RELATION OF FARM LABOR INCOME TO TENURE

County	Year	Farm labor income				
		Owners	Part owners	Cash tenants	Share tenants	Share-cash tenants
Jefferson	1910	534	619	625	706	1123
Tompkins	1917	341	400	555	762	472
Livingston	1918	168	254	142	364	476
5 Counties	1921	118	632	377	369	—
Niagara	1923	−286	−136	−10	−228	—
All Counties	——	225	386	343	477	596

J. F. HARRIOTT

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 43 MARCH, 1927

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm Prices		Prices of Food		Cost or living[4]	Weekly earnings N. Y. factory workers[5]	Prices of 70 indust'l stocks[6]	Interest rates 4-6 mos. comm'l. paper[7]
		New York[2]	United States[2]	Farm[3]	Retail[3]				
1913	102	97	99	100	103	100		96	115
1914	100	103	101	105	106	103	101	96	99
1915	103	100	101	106	107	105	104	119	71
1916	129	116	119	117	117	118	116	152	71
1917	180	170	180	181	156	142	132	140	98
1918	198	186	206	200	180	174	164	130	121
1919	210	206	215	213	194	199	190	160	112
1920	230	217	214	207	207	200	227	144	153
1921	150	144	119	130	163	174	207	118	135
1922	152	134	124	121	150	170	202	146	92
1923	157	142	137	124	154	173	220	155	102
1924	152	128	140	126	153	173	223	166	81
1925	162	147	154	152	169	178	228	221	83
1926	154	156	142	154	174	176	234	247	88
July, 1925	163	150	156	157	172		226	222	80
Aug.	163	156	160	158	172		227	228	74
Sept.	163	148	152	150	170		228	236	76
Oct.	160	147	151	149	171		230	243	78
Nov.	161	165	153	159	173		231	248	84
Dec.	159	159	152	159	171	178	234	250	87
Jan., 1926	159	158	150	157	174		234	252	99
Feb.	158	156	150	156	175		230	255	100
Mar.	154	158	145	154	177		234	239	97
Apr.	154	171	146	158	180		233	232	96
May	155	176	145	161	179		231	233	93
June	155	176	146	161	177	175	234	242	87
July	154	163	143	156	172		232	249	81
Aug.	152	150	140	147	169		233	256	79
Sept.	154	148	140	148	171		236	254	78
Oct.	153	140	134	148	171		237	246	81
Nov.	151	150	135	151	170		235	250	85
Dec.	150	145	133	150	169	176	238	256	87
Jan., 1927	150	142	130	145			237	252	96
Feb.		142	132	145				258	95

(For footnotes see next page.)

BUSINESS CONDITIONS

Apparently city business conditions are improving. Prices of industrial stocks are again rising. Prices in February were the highest in history. Interest rates are lower than last year at this time.

Prices of Farm Products

The prices of cotton improved in the month of February, but the average of food products as sold by farmers declined 5 points. Food as sold by farmers is bringing less than at any previous time since December 1924. The most striking decline has been in the price of eggs. Prices of nearby hennery white eggs in New York are lower than last year. In February they were only 6 per cent above the pre-war average. This is lower than at any previous time in ten years. Potatoes also declined. Dairy products are now paying better than most other food products.

The great prosperity in cities, coupled with cheap food, gives a relatively high demand for products other than food. In spite of the enormous crop, farmers are receiving only 6 per cent below pre-war prices for cotton. Cotton prices are held down because of the large crop, but cotton demand is held up by cheap food.

Material advances occurred in the prices of the high protein feeds. This is probably due to increased demand by dairymen.

Supply of Grain on Farms in the United States

The Department of Agriculture estimates of the amount of grain on farms are given in Table 1. Compared with last year there is a material decline in the supply of feed grains; corn, oats, and barley; but an increase in wheat. The supply of most grain is about the same as the five year average. The total pounds of the five grains is slightly below the five year average.

TABLE 1.—GRAIN ON FARMS MARCH 1ST

	5 year average 1922-26	1925	1926	1927
Corn, bu.	1,128,037,000	757,890,000	1,329,581,000	1,113,691,000
Oats, bu.	478,098,000	538,832,000	571,248,000	423,957,000
Wheat, bu.	128,050,000	112,095,000	100,137,000	130,444,000
Barley, bu.	44,637,000	40,576,000	52,915,000	40,829,000
Rye, bu.		8,263 000	6,544,000	5,647,000
Total pounds	89,000,000,000	69,000,000,000	102,000,000,000	86,000,000,000

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923 Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February 1927.

[4] Reported by the United States Bureau of Labor Statistics, 1913 = 100. Monthly Labor Review Vol. XXIV, No. 2, p. 168, February 1927.

[5] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[6] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[7] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

Feed grains have been very cheap for two years. They are being used very freely and a slight increase in the number of hogs has occurred. While there is nothing to indicate that feed prices are likely to become very high in the near future, there is little probability that present prices can continue indefinitely. Last September a dairy ration could be bought at Utica for 22 per cent above pre-war September prices. In February it would cost 31 per cent above pre-war February prices.

G. F. Warren and F. A. Pearson

FARM POPULATION IN NEW YORK STATE

In cooperation with the New York State Department of Farms and Markets, and the United States Department of Agriculture, estimates are made each February of the farm population in New York State. The results for 1927 are based on records sent in by 746 reporters for 7370 farms. This sample includes 4 per cent of the farms in the state. The figures here published are revised to agree with the United States census for 1925.

TABLE 1.—ESTIMATED FARM POPULATION IN NEW YORK STATE

Year	Persons living on farms February 1	Men and boys who left farm work for other kinds of work, year ending February 1	Men and boys who left other kinds of work for farming, year ending February 1	Hired men on farms February 1
1916				77,000
1917	898,000			65,000
1918	858,000	24,000	16,000	54,000
1919	824,000			46,000
1920	801,000	33,000	11,000	38,000
1921	792,000	40,000	16,000	35,000
1922	809,000	17,000	14,000	36,000
1923	784,000	35,000	8,000	32,000
1924	769,000	42,000	15,000	29,000
1925	768,000	30,000	11,000	28,000
1926	765,000	32,000	13,000	27,000
1927	757,000	37,000	13,000	25,000

The farm population has declined 16 per cent in ten years. The number of hired men is less than one-third of what it was 11 years ago.

In the last eight years 266000 hired men and boys left the farms to do work other than farming and 101,000 left other kinds of work to go to farming, leaving a net movement from farms to cities of 165,000 male workers. Since women and children also left farms, the total movement is more than twice this amount.

Altho the farms probably contributed to the cities over 320,000 persons in 8 years, the population on farms declined only 44,000. More children are born and reared on farms than are necessary to maintain the farm population.

G. F. Warren

CABBAGE PRICES AND THE NEXT YEAR'S ACREAGE

Relative Importance of Acres and Yields in Determining Production

The variations in the production of cabbage are due to variations in acreage and yields per acre.[1] The yields per acre have been about twice as important in determining production as the acres harvested.[2] Yields per acre vary from year to year according to the number of cabbage plants that live, to the damage from lice and other insects and diseases, and to the

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[1] For the 9 late cabbage states, the multiple correlation between production, X_1, yield, X_2, and acreage. X_3, for the 12 years 1915 to 1926 was $R_{1.23} = +0.997$.

[2] The coefficients of determination were,
yield 62 percent
acreage 37 percent

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.4
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.5
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
April	65.7	39.4	142.2	54.8	82.5	207.0	3.28	16.6	12.78	......	270.5	180.4
May	67.1	30.5	142.1	55.1	85.0	205.4	3.31	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	......	126.4	110.6
November	66.9	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	......	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	......	137.0	94.0
1927												
January	64.3	42.6	122.2	58.0	83.6	193.0	2.99	10.6	13.38	......	139.1	97.8
February	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	......	134.1	109.0

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	128
1923	124	104	112	91	130	140	177	215	103	166	121	110
1924	141	119	126	110	141	129	158	216	111	151	125	150
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	......	267	176
1926												
April	106	97	160	85	114	120	150	106	134	......	397	194
May	104	96	158	85	116	117	146	127	107	......	352	197
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165
October	106	100	139	90	119	118	127	97	113	......	183	130
November	104	103	140	93	117	121	133	91	114	......	236	116
December	110	106	143	93	117	127	134	82	109	......	226	130
1927												
January	110	111	140	95	118	119	133	86	114	......	222	125
February	112	110	138	96	119	115	132	94	114	......	204	131

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt
1910-14	c.	$	c.	c.	c.	$	$	$	$	[illegible]	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7 12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7 59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102 3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97
1927												
January	97	73	20.1	36.9	44.0	66.77	6.45	9.75	6.87	10.65	30.9	10.97
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	159
September	125	56	180	163	166	134	121	143	163	201	188	156
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163
1927												
January	100	53	188	125	155	141	128	144	149	184	167	156
February	96	54	194	110	161	143	129	149	157	182	168	157

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buckwheat	Beans	Hay	Potatoes	Apples	Horses
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1926										
April	90	51	158	74	85	3.54	14.10	300	130	133
May	89	53	158	76	89	3.60	14.50	290	124	133
June	88	50	157	77	94	3.60	15.00	225	135	133
July	88	52	149	72	97	3.48	15.30	170	140	129
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115
1927										
January	86	50	131	71	85	3.24	14.00	150	90	115
February	89	51	132	73	86	3.36	14.40	135	87	123

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buckwheat	Beans	Hay	Potatoes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
April	127	104	158	96	116	155	91	435	126	75
May	122	106	158	96	119	153	92	403	110	73
June	117	98	154	96	122	154	92	321	138	74
July	116	102	148	92	115	144	96	246	159	74
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65
1927										
January	119	111	132	95	120	138	92	234	111	66
February	125	109	132	97	119	144	95	196	100	70

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48		90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
April	28.5	31	35.3	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	28.4	29	35.8	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	28.1	30	36.9	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	28.0	32	40.0	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61	39.7	52		95.00	12.00	5.60	5.60	11.80	37	12.10
1927												
January	25.7	48	46.0	51	2.72	92.00	12.40	5.60	5.80	11.50	35	11.60
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	185
1918	184	182	182	161	204	167	180	162	233	236	314	213
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155		162	142	108	139	192	176	161
1926												
April	193	148	157	157	162	159	152	121	132	176	176	159
May	191	153	157	159	184	165	140	103	148	188	175	158
June	185	150	151	164	193	162	146	113	134	202	170	170
July	184	145	147	167	175	165	141	103	139	187	167	168
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149	121	153		168	137	103	129	192	176	165
1927												
January	189	126	116	150	143	171	147	106	139	179	159	156
February	186	125	106	155	149	179	152	111	133	181	164	161

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Standard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24 79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59 86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40 91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	67.30	37.21	42.12
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	63.80	36.30	40.99
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	63.80	36.12	40.55
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	73.80	37.53	42.58
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96
1927												
January	37.94	37.25	35.30	41.79	34 30	35 70	35.60	50.84	38.70	75.80	38.12	41.82
February	37.85	38.65	34.63	40.68	35.06	36.75	36.00	51.43	42.31	79.80	38.91	42.52

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Standard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
April	129	135	120	116	129	127	131	157	127	128	130	133
May	120	138	112	111	124	116	129	154	127	122	127	128
June	121	140	111	110	125	117	126	154	127	122	127	127
July	132	150	120	111	128	117	128	160	129	141	133	132
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133
1927												
January	138	123	127	135	132	137	132	147	118	146	129	134
February	138	126	125	128	133	140	133	148	132	153	131	135

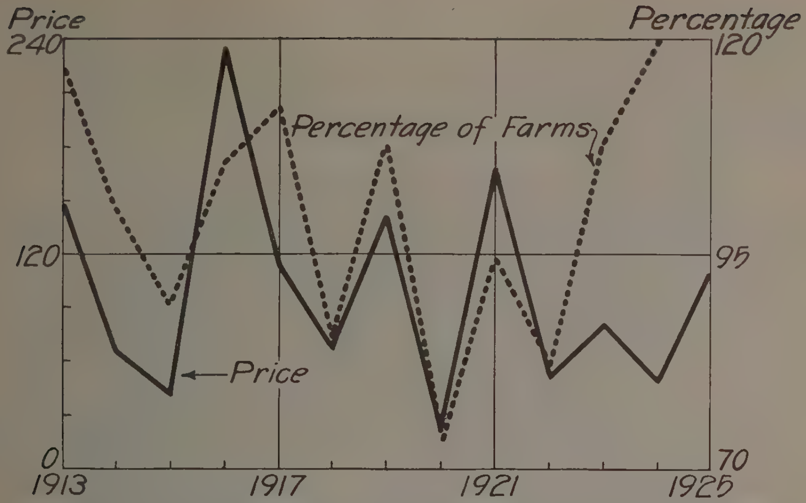

FIGURE 1.—THE PURCHASING POWER OF THE PRICE OF CABBAGE AND THE PERCENTAGE OF THEF FARMS PRODUCING CABBAGE THE FOLLOWING YEAR IN NEWFANE. NIAGARA COUNTY, NEW YORK.

Following years of high cabbage prices, more farmers tend to set cabbage. Conversely following years of low prices fewer farmers set cabbage.

summer rainfall. On the average, a variation of 10 percent in rainfall has resulted in a variation of 11 percent in the yield per acre.[3] The rainfall next July, August, and September will be the most important factor in determining next year's cabbage crop. Two thirds of the total cabbage production is the result of varying yields and one third is the result of varying acreages.[2] The acreage is the most important factor under the control of the farmers. Some of the factors that influence farmers to set cabbage are (1) last year's cabbage prices, (2) cabbage prices in the two previous years, (3) outlook for competing crops, (4) availability of cabbage plants, and (5) weather. During the past thirteen years the number of farmers in the Town of Newfane, Niagara County, N. Y. that produced cabbage was closely associated with the price for the previous year.[4]

TABLE 1. ACREAGE, YIELD, AND PRICE OF CABBAGE
Newfane township, Niagara County, N. Y.

Year	Price per ton	Percent of farms growing cabbage	Acres per farm growing cabbage	Yield per acre (tons)
1913	$18.57	56	3.0	7.6
1914	7.78	63	2.7	7.5
1915	5.56	54	2.9	6.5
1916	42.84	48	2.5	1.4
1917	25.73	57	2.3	0.6
1918	16.61	60	2.0	5.5
1919	39.10	46	2.0	1.3
1920	5.15	58	2.5	8.7
1921	28.77	39	2.1	3.6
1922	9.98	51	2.2	5.2
1923	15.36	44	2.5	4.9
1924	9.44	58	2.6	7.7
1925	21.66	65	2.8	8.0
13 year average	18.97	54	2.5	5.3

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[3] Misner, E. G.—"The Marketing of Cabbage". Cornell University Agricultural Experiment Station Bulletin 443.

[4] The gross correlation between the logarithms of the purchasing power of the average season's price paid to Newfane farmers and the logarithms of the number of farmers growing cabbage the following year was r = +0.66.

(Figure 1). For instance, the 1920 cabbage crop sold for $5.15 per ton and the next spring only 39 percent of the farmers grew cabbage; whereas, in 1920, 58 percent grew cabbage because cabbage sold at an average of $39.10 per ton in the preceding season. The total acreage of cabbage varied closely with the percentage of farmers growing cabbage.[5]

How the 1926 Prices Will Effect This Spring's Setting

This season, the New York City wholesale price from October to February averaged $22.50 per ton. The purchasing power was 74 percent of the 1913-25 average.[6] Other things being equal, it would be expected that the number of Newfane farmers that will grow cabbage in 1927 will be 5 to 10 percent below normal.[7] G. P. Scoville

A STUDY OF THE BUSINESS OF BUYING AND SELLING HORSES FOR FARM USE

Thru the kindness of a lady in Vermont, the College of Agriculture has received a carefully kept set of account books covering the purchase and sale of horses largely for the use of farmers in the states of Vermont and New Hampshire, for the years 1903 to 1917. During this 15 year period, 4423 horses were handled, of which 2765 were handled singly and 1658 as teams. The data are very complete as to purchase and sale price, sex, and color but do not include weights of the horses handled.

Figure 1 shows the purchasing power of horses for the years 1890 to 1926. This is computed from the December 1 farm price of horses in the United States as reported by the United States Department of Agriculture,

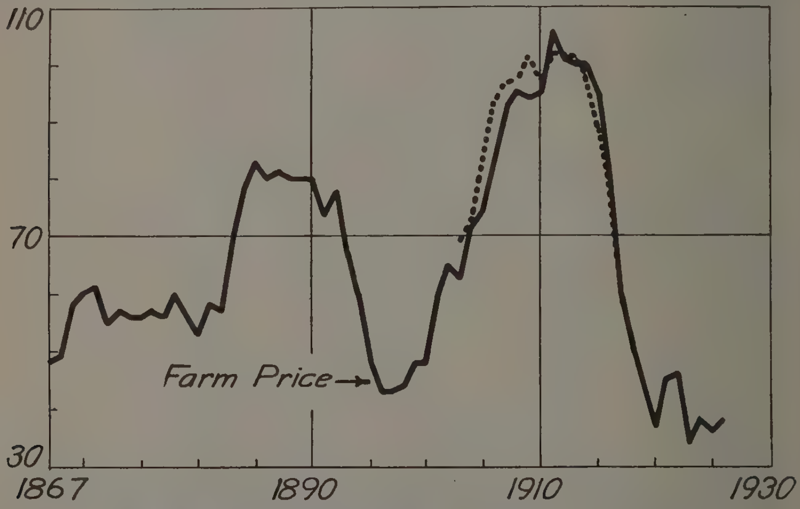

FIGURE 1.—PURCHASING POWER OF THE PRICE OF HORSES
The purchasing power of the price of horses brought into Vermont from Nebraska is very similar to the purchasing power of the December 1 United States farm price of horses.

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[5] The gross correlation between the total acreage and the percent Newfane farmers growing cabbage was $r = +0.82$.

[6] The New York City wholesale price from October 1926 to February 1927 was 71 percent of the 1913-25 average.

[7] In 1926, the acreage of cabbage harvested in the 9 late growing states was 4 percent above the average acreage for the 12 years 1915-26; the yield was 14 percent above.

TABLE 1.—PURCHASE PRICE, SALE PRICE, AND GROSS PROFIT ON 2765 HORSES BROUGHT INTO VERMONT 1903-1917*

Year	Average purchase price	Average sale price	Average gross profit	Per cent spread is of purchase price	Index number 1910-14 = 100 Purchase price **	Index number 1910-14 = 100 Sale price **	Index number 1910-14 = 100 Gross profit **	Purchasing power 1910-14 = 100 Purchase price	Purchasing power 1910-14 = 100 Sale price	Purchasing power 1910-14 = 100 Gross profit
1903	$116.96	$149.11	$32.15	27	60	65	91	69	75	105
1904	121.86	151.18	29.32	24	63	66	83	72	76	95
1905	141.04	171.34	30.30	21	73	75	86	83	85	98
1906	162.45	192.29	29.84	18	84	84	84	93	93	93
1907	176.16	212.02	35.86	20	91	93	101	96	98	106
1908	177.01	211.63	34.62	20	91	92	98	99	100	107
1909	183.50	216.12	32.62	18	95	94	92	96	95	93
1910	193.26	219.12	25.86	13	100	96	73	97	93	71
1911	188.41	229.10	40.69	22	97	100	115	102	105	121
1912	199.04	230.84	31.80	16	103	101	90	102	100	89
1913	199.21	238.35	39.14	20	103	104	111	101	102	109
1914	188.50	227.95	39.45	21	97	100	111	97	100	111
1915	177.34	205.75	28.41	16	92	90	80	89	87	78
1916	202.04	233.41	31.37	16	104	102	89	81	79	69
1917	206.13	195.72	—10.41		106	85		59	47	
Average	175.47	208.56	33.09	19						

*The data were analyzed for horses sold singly and for horses sold as teams. Since there was no striking differences in these two groups, data presented in the tables applies only to single horses.

**The average purchase price for the 5 years, 1910-14 was $193.68; the average selling price, $229.07; and the average gross profit was $35.39.

divided by the wholesale price of all commodities as published by the United Stated Bureau Labor Statistics. The purchasing power of the price paid for the horses included in this study is also plotted on this same chart. It is interesting to note how closely the two graphs coincide. The transactions described in this study seem to be normal so far as price is concerned for the period of years covered.

In 1903, the average price paid in Nebraska for 227 horses was $116.96. The average purchase price rose gradually each year until it reached the peak of $206.13 in 1917 (Table 1). The general price level rose so rapidly from 1913 to 1917 that there was an actual decrease in the purchasing power of the price of horses from 1913 to 1917.

The selling price of these horses in Vermont increased in approximately the same ratio as the purcashing price. The average cost of these horses was $175.47; the average selling price, $208.56; and the average gross profit, $33.09.

This gross profit must cover expenses of the horsedealer in traveling from Vermont to Nebraska to purchase the horses, freight on the horses from Nebraska to Vermont, cost of feeding, interest on investment, losses

TABLE 2.—NUMBER OF MALES AND FEMALES BROUGHT INTO VERMONT 1903-1917

Year	Number purchased			Per cent sex purchased			Number of males per female
	Male	Female	Unknown	Male	Female	Unknown	
1903	158	41	28	69.6	18.1	12.3	3.9
1904	12	5	19	33.3	13.9	52.8	2.4
1905	129	74	35	54.2	31.1	14.7	1.7
1906	159	73	32	60.2	27.7	12.1	2.2
1907	145	88	23	56.6	34.4	9.0	1.6
1908	142	59	6	68.6	28.5	2.9	2.4
1909	126	66	16	60.6	31.7	7.7	1.9
1910	150	50	18	68.8	22.9	8.3	3.0
1919	196	54	5	76.9	21.2	1.9	3.6
1912	143	55	7	69.8	26.8	3.4	2.6
1913	196	66	1	74.5	25.1	0.4	3.0
1914	122	51	2	69.7	29.2	1.1	2.4
1915	48	18	0	72.7	27.3	0.0	2.7
1916	68	47	1	58.6	40.5	0.9	1.4
1917	22	7	2	70.8	22.7	6.5	3.1
Total	1816	754	195	65.7	27.3	7.0	2.4

due to death, and various other costs. The gross profit per head was rather uniform from year to year and averaged 18.9 per cent on the purchase price for the entire period. The gross profit ranged from 27 per cent in 1903 to 13 per cent in 1910. Apparently, the largest gross profits were made in the first two years when the price of horses was rising rapidly. The percentage of gross profit was somewhat less in later years when the peak of the horse cycle had been passed.

TABLE 3.—PURCHASE PRICE, SALE PRICE AND GROSS PROFIT ON 1816 MALES AND 754 FEMALES, BROUGHT INTO VERMONT, 1903-1917

Year	Average purchase price		Average sale price		Average gross profit	
	Male	Female	Male	Female	Male	Female
1903	$119.01	$119.14	$149.43	$146.82	$30.42	$27.68
1904	137.29	136.00	162.29	162.00	25.00	26.00
1905	138.73	114.57	167.65	176.10	28.92	61.53
1906	162.01	163.76	191.43	194.91	29.42	31.15
1907	175.25	175.98	210.20	213.62	34.95	37.64
1908	178.74	170.06	213.48	208.58	34.74	38.52
1909	188.42	179.31	221.07	211.55	32.65	32.24
1910	192.72	198.60	218.22	224.82	25.50	26.22
1911	189.55	188.03	230.44	228.44	40.89	40.41
1912	198.39	202.15	230.13	233.56	31.74	31.41
1913	109.19	199.81	237.86	240.45	38.67	40.64
1914	188.01	189.21	224.49	234.48	36.48	45.27
1915	179.58	171.39	200.62	219.44	21.04	48.05
1916	204.41	198.67	243.68	218.40	39.27	19.73
1917	215.00	176.43	204.32	183.93	−10.68	7.50
Average	177.47	176.86	210.23	210.75	32.76	33.89

A record of the sex of the horses handled indicates the extent to which farmers in the west were withholding mares from the market for the sake of maintaining or increasing their breeding stock. About two-thirds of the animals handled were geldings and a little less than one-third were mares (Table 2). The percentage of mares handled does not seem to vary greatly from year to year. The small percentage of mares handled was undoubtedly the result of the rapid rise in prices during these years and the consequent desire of the western farmers to increase his breeding stock.

The most striking thing in Table 3, is the remarkable uniformity in the purchase price of males and females. The average purchasing price of 1816 males was $177.47 and the average purchase price of 754 females was $176.86. The difference was only 61 cents. The same relationship holds true for the selling price and the gross profit. Apparently New England farmers had no prejudice against working mares and apparently during a period of rapidly rising horse prices, there was no particular premium paid for mares in the New England states.

TABLE 4.—RELATION OF COLOR TO THE NUMBER, PURCHASE PRICES, SALE PRICE AND GROSS PROFIT OF 2765 HORSES BROUGHT INTO VERMONT, 1903-1917

Color	Number	Per cent of total	Average purchase price	Average sale price	Average gross profit	Per cent spread is of purchase price
Bay	767	27.7	$175.10	$209.75	$34.65	20
Grey	580	21.0	176.81	211.60	34.79	20
Black	545	19.7	179.32	214.12	34.80	19
Brown	466	16.9	175.62	206.33	30.71	17
Sorrel	197	7.2	173.16	201.11	27.95	16
Roan	108	3.9	173.27	199.34	26.07	15
Chestnut	30	1.1	187.83	222.33	34.50	18
White	25	.9	134.28	164.60	30.32	23
Dapple grey	4	.1	161.25	194.37	33.12	21
Spotted	4	.1	111.87	151.25	39.38	35
Unclassified	39	1.4	150.32	177.26	26.94	18
All	2765	100.0	175.47	208.56	33.09	19

Eighty-five per cent of the horses were classified as bay, grey, black or brown (Table 4). Bays and greys each made up about one fourth of the total number. Seven per cent were classified as sorrels. Roans, chestnuts, whites, and dappled greys, and spotted horses were relatively unimportant in numbers. A sorting of horses by colors does not seem to show any striking price preference for any particular color. It is true that chestnut horses sold for a higher price than the average and that white and spotted horses sold for less. In each case, however, the number of horses included is small. It is probable that white horses were not in as great demand as were the other colors.

About thirty per cent of the horses were imported into Vermont in the months of April and May. Throughout the rest of the year the importations were very uniform with the exception of August when fewer horses were brought in (Table 5). There was considerable variation in the proportion of males to females during the different months. During the five months, May to September, inclusive, there were imported 1.8 males for each female, whereas from October to April, inclusive, the ratio was 3.1 males to each female.

TABLE 5.—SEASONAL VARIATION IN THE NUMBER OF MALES AND FEMALES BROUGHT INTO VERMONT, 1903-1917

Month	Number of animals purchased in each month				Per cent of animals purchased in each month			
	All	Male	Female	Unknown	All	Male	Female	Unknown
January	184	133	43	8	6.6	7.3	5.7	4.1
February	197	139	28	30	7.1	7.7	3.7	15.4
March	229	161	51	17	8.3	8.9	6.7	8.7
April	372	246	101	25	13.5	13.6	13.4	12.8
May	494	304	158	32	17.9	16.7	21.0	16.4
June	252	137	77	38	9.1	7.5	10.2	19.5
July	104	69	33	2	3.8	3.8	4.4	1.0
August	195	106	83	6	7.0	5.8	11.0	3.1
September	210	141	64	5	7.6	7.8	8.5	2.6
October	154	106	42	6	5.6	5.8	5.6	3.0
November	210	158	47	5	7.6	8.7	6.2	2.6
December	164	116	27	21	5.9	6.4	3.6	10.8
Total	2765	1816	754	195	100.0	100.0	100.0	100.0

During the fifteen years 4423 horses were handled, of which 73 died. This is a loss of 1.65 per cent, or about 17 deaths per thousand horses handled. This represents about 9 per cent of the gross profit.

A sorting of animals handled on the basis of price paid for them indicates that a larger profit was made on the cheap horses than on the more expensive ones (Table 6).

In the years of low average prices, spreads were less than in years of high prices. Hence the real differences in gross profits between cheap and valuable horses are slightly greater than indicated by the figure here given. Horses that sold by Nebraska farmers for less than $125, averaging $100.50, were bought by Vermont farmers for an average of $138.62. Horses selling

TABLE 6.—RELATION OF PURCHASE PRICE TO GROSS PROFIT; 2765 HORSES BROUGHT INTO VERMONT, 1903-1917

Purchase price	Number	Per cent of all animals	Average purchase price	Average sale price	Average gross profit	Per cent spread is of purchase price
$25-75	22	0.79	$ 60.95	$107.84	$46.89	77
75-100	72	2.61	83.50	125.30	41.80	50
100-125	190	6.87	111.52	147.23	35.71	32
125-150	349	12.62	134.82	173.41	38.59	29
150-175	573	20.72	160.26	194.17	33.91	21
175-200	574	20.76	183.07	217.49	34.42	19
200-225	624	22.57	206.60	236.73	30.13	15
225-250	329	11.90	229.53	257.35	27.82	12
250-325	32	1.16	257.83	259.60	1.77	1
Total	2765	100.00	175.47	208.56	33.09	19

by Nebraska farmers for $225-250, averaging $229.53, were bought by Vermont farmers for $257.35. On Nebraska farms the better horses were considered to be worth 119 percent more than the poorer ones, but on Vermont farms they were considered to be worth only 86 per cent more than the poorer ones.

Apparently there was a much larger variation in the selling prices of horses in the surplus areas in Nebraska than there was in the deficit areas of Vermont. For 72 horses selling between $75 and $100, the gross profit was 50 per cent; for 329 horses selling between $225 and $250, the gross profit was only 12 per cent. There was a consistent decrease in the percentage of gross profit from the low priced groups to the higher.

Besides bringing in 4423 horses from the west, this dealer also bought and sold 1523 local horses. The gross profit on these averaged ten dollars per head. The average selling price was $167.73 compared with an average selling price of $208.56 for the horses imported from the west. Evidently these local horses were less valuable than the western ones. About one-fourth of the animals handled were local horses. C. E. Ladd

TRENDS IN THE FERTILIZER INDUSTRY

The agricultural depression has affected business that serve agriculture in much the same way that farms have been affected. Some of the effects on the fertilizer industry are here given. When agriculture recovers the businesses that serve agriculture will recover.

In 1904, the cost of materials, the value added by manufacture, the salaries and wages, and value of products per ton, for fertilizer establishments were in about the same relation to each other as in 1914 (Tables 1 and 2). Five years later, 1909, the cost of materials (96), salaries and wages (100), and value of products (101) were in approximate adjustment. However, the value added by manufacture was 114, while the value added by manufacture other than salaries and wages was 123. Apparently, the fertilizer business was profitable. During the following 5 years, 1909-1914, the number of establishments increased from 550 to 784. This rapid increase indicates that previous profits were large.

TABLE 1. COST OF MATERIALS, VALUE ADDED BY MANUFACTURE AND VALUE OF PRODUCTS PER TON FOR FERTILIZER ESTABLISHMENTS 1904-1923

Year	Cost of materials per ton	Value added by manufacture per ton	Salaries and wages per ton	Value added by manufacture other than wages per ton	Value of product per ton
1904	$11.69	$5.13	$2.10	$3.03	$16.83
1909	14.15	7.01	2.42	4.59	21.16
1914	14.71	6.16	2.42	3.74	20.87
1919	26.98	14.01	5.39	8.62	40.99
1921	27.97	6.83	4.99	1.84	34.81
1923	19.28	8.30	3.93	4.37	27.58

TABLE 2. INDEX NUMBERS OF MATERIALS, VALUE ADDED BY MANUFACTURE, AND VALUE OF PRODUCTS PER TON 1904-1923, 1914 = 100

Year	Cost of materials per ton	Value added by manufacture per ton	Salaries and wages per ton	Value added by manufacture other than wages per ton	Value of products per ton
1904	79	83	87	81	81
1909	96	114	100	123	101
1914	100	100	100	100	100
1919	183	227	223	230	196
1921	190	111	206	49	167
1923	131	135	162	117	132

In 1919, the value added by manufacture was 227 per cent of pre-war, and the value added by manufacture other than salaries and wages was 230 per cent of pre-war. The purchasing powers were 108 and 109 respectively. The number of plants did not increase.

In 1923, cost of materials (131), value added by manufacture (135) and value of products (132) were in about their pre-war relationships. Salaries and wages per ton, however, were 162 and the value added by manufacture other than salaries and wages was only 117 per cent of prewar. Even tho the gross margin was in its prewar relation with the cost of materials, and value of products, salaries and wages were a larger part of the gross margin. Therefore, the amount left to pay operating costs other than wages, and interest on indebtedness was very low.

TABLE 3. PURCHASING POWER OF MATERIALS, VALUE ADDED BY MANUFACTURE AND VALUE OF PRODUCTS PER TON
1914 = 100

Year	Cost of materials	Value added by manufacture	Salaries and wages	Value added other than wages	Value of products
1904	91	95	100	93	93
1909	97	115	101	124	102
1914	100	100	100	100	100
1919	87	108	106	110	93
1921	127	74	137	33	111
1923	83	86	103	75	84

The purchasing power of the gross margin other than wages was only 33 per cent of pre-war in 1921 and 75 per cent of prewar in 1923. This is one of the factors which has caused the depression in the fertilizer industry.

The value of the real estate and equipment of three large fertilizer corporations increased gradually from 1913 to 1922. in 1923 and 1924 there was a slight decline. (Table 4). The bonded indebtedness, however, decreased slightly from 1915 to 1920, but with the depression of 1921, it practically doubled. Thus the ratio of the bonded debt to value of real estate and equipment in 1923 and 1924 was only 1.45 as compared with a pre-war average of 2.45. That is, in 1913-14, for every dollar of bonded debt there was $2.45 of real estate and equipment. In 1923-24, however, the value of real estate and equipment was only $1.45 per dollar of bonded debt.

TABLE 4. ASSETS, LIABILITIES, AND PROFITS OF THREE LARGE FERTILIZER CORPORATIONS*
1913-1924

Year	Real estate and equipment	Current assets	Bonded debt	Current liabilities	Profits	Ratio of bonded debt to value of real estate and equipment
1913	$ 96,380,930	$ 68,160,867	$36,963,000	$20,490,720	$ ——	2.6
1914	98,240,638	73,975,534	42,724,800	21,453,723	5,701,000	2.3
1915	99,485,363	79,486,474	46,900,200	20,736,012	7,229,333	2.1
1916	101,704,871	72,790,830	46,518,720	11,164,958	10,893,267	2.2
1917	104,017,744	84,308,697	45,186,405	22,226,045	10,669,235	2.3
1918	107,078,062	113,572,794	44,546,985	42,203,759	17,540,710	2.4
1919	109,215,429	127,588,866	38,713,940	46,459,252	12,359,785	2.8
1920	113,962,097	139,087,677	36,026,937	54,993,073	14,683,495	3.2
1921	122,516,569	145,326,570	71,925,900	61,298,555	d11,841,176	1.7
1922	125,126,170	129,246,553	70,286,900	43,516,074	d 3,344,511	1.8
1923	116,844,565	95,235,280	80,615,800	17,190,624	d 3,620,112	1.4
1924	115,345,973	84,834,672	78,716,800	10,002,674	d 5,950,280	1.5

* Data from Moody's Analyses of Investments.
d = Deficit.

The profits of these three corporations increased thruout the war and inflation period. In 1921, however, these companies incurred large losses. The combined deficit for 1921 was $11,841,000 as compared with a profit of $14,683,000 for 1920. These companies operated at a loss during the 4 years 1921-1924, inclusive. These losses made necessary the financial reorganization of some companies.

For seven years the American farmer has suffered from low prices and high wage costs. The consumption of fertilizer is adversely affected by these two factors. High city wages have increased the cost of manufacturing fertilizer, and tended to reduce the margin left for paying operating costs, other than wages, and interest on indebtedness. The present relations between the value added by manufacture, salaries and wages, and value of product cannot continue. The margin in 1921 and 1923 above the cost of materials and wages is not sufficient to maintain the industry.

E. E. VIAL

COSTS AND RETURNS FOR MILK PRODUCTION IN SUMMER AND WINTER

There is a wide difference between the cost of feeding animals on pasture and in the barn. In six areas of New York State, the cost of pasture, the cost of winter feed and the returns from the milk per cow per day are shown in Table 1.

The average cost of pasturing a cow in these areas was $8.65 for the season, or 5.4 cents per day. The cost of feed used supplementary to pasture averaged 4.3 cents per cow per day. Therefore the total cost of pasture feed was 9.7 cents. The returns for milk averaged 34 cents per cow per day.

In the winter period the value of feed used averaged 38 cents per cow per day and the milk sold, 34 cents.

TABLE 1. COST OF PASTURE

County	Year ending April 30	Cost of pasture per cow		Cost of feed used supplementary to pasture per cow per day	Total cost of pasture and feed used supplement- to pasture per cow per day	Returns from milk per cow per day in pasture period	Cost of winter feed per cow per day	Returns from milk per cow per day in winter
		Per season	Per day					
Broome	1915	$ 4.54	2.8¢	1.9¢	4.7¢	$.24	$.25	$.25
Herkimer	1919	10.97	6.5	3.6	10.1	.47	.48	.39
Chenango	1922	7.10	4.3	3.8	8.1	.30	.39	.29
Cortland*	1922	10.05	6.5	9.4	15.9	.40	.43	.50
Madison	1922	9.15	5.8	6.0	11.8	.35	.44	.43
Jefferson	1922	10.11	6.3	1.2	7.5	.29	.28	.17
Average		$ 8.65	5.4	4.3	9.7	$.34	$.38	$.34

* This area produced Grade A milk for which premiums were paid; so the returns are higher than in other areas.

The value of milk sold in winter lacked $13 per farm of equalling the farm value of dry forage, succulent feed and the cost of concentrates for cows in Broome County, 1915; $428 in Herkimer County, 1919; and $4 in Chenango County.[1]

When the value of the pasture feed is deducted from the value of milk sold during the pasture period the following amounts are available to apply to all other costs including labor: Broome County, $389 per farm; Herkimer County, $1456 per farm; Chenango County,[1] $684 per farm.

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[1] Four year average, 1921-1924.

TABLE 2. DIFFERENCE BETWEEN VALUE OF MILK SOLD AND VALUE OF FEED USED BY DAIRY COWS PER FARM IN WINTER AND IN SUMMER—NEW YORK

Area	Broome County	Herkimer County	Chenango County				
Year	1915	1919	1921	1922	1923	1924	Average four years
Number of farms	149	163	121	88	95	91	
Winter period:							
Value of milk sold	$658	$1,804	$1,637	$1,791	$1,823	$1,840	$1,763
Cost of concentrates	260	847	800	756	820	787	792
Difference	398	957	837	1,035	1,003	1,053	971
Value of hay and other dry forage	273	1,171	593	574	540	397	531
Difference	125	−214	244	461	463	656	440
Value of succulent feed	138	214	482	426	461	395	444
Difference between value of feed and milk sold to apply to labor and all other costs	−13	−428	−238	35	2	261	−4
Value per ton,							
Concentrates	29.60	62.01	38.35	42.78	42.84	43.22	
Dry forage	9.51	18.33	14.89	12.34	14.33	10.17	
Succulent feed	4.71	6.78	5.52	5.16	5.27	4.90	
Pasture period:							
Value of milk sold	493	1,887	1,102	966	1,233	923	1,062
Value of pasture	63	278	172	161	182	169	171
Value of feed used supplementary to pasture	41	153	234	222	213	150	207
Total value of pasture feed	104	431	406	383	395	319	378
Difference between value of pasture feed and milk sold to apply to labor and all other costs	389	1,456	696	583	838	604	684

If the dairy farmer were to buy hay and silage at farm prices as well as grain he would be compelled to quit the production of winter milk unless he could make enough on summer milk.

When the cost of grain and the value of roughage is charged to dairy cows in winter nothing is left to pay for labor or other costs, this does not indicate, that winter dairying is not better than summer dairying. These investigations show that the dairymen with a large proportion of their herd freshening in the fall, consistently receive more pay for their time for the year than do dairymen with a large proportion of spring fresh cows. They get much better production in winter and nearly as good production during the pasture period as do the dairymen with spring fresh cows.

The present low prices for hay to be sold, favor the pasturing of some meadows on farms, where hay was formerly a regular cash crop. This, high farm wages, and relatively low prices for winter milk, are not particularly strong incentives for dairymen to produce winter milk.

Despite the fact that farmers are frequently criticised for producing so much milk in the early spring and summer months, they continue to do so because it is the cheapest way. The most effective persuasion for making them do otherwise is not exhortation, but sufficient differential between winter and summer prices of milk.

E. G. Misner

EFFECT OF PRICE CHANGES ON SALES OF MILK IN THE NEW YORK METROPOLITAN AREA, 1919 to 1924

The research work on which this article is based was carried on co-operatively by the Bureau of Agricultural Economics of the United States Department of Agriculture and the New York State College of Agriculture.

Prior to October, 1916, there had been no change in the retail price of Grade B milk in New York City for nine years. The advance in price at that time met with much opposition on the part of the consuming public, EFFECT OF PRICE CHANGES ON SALES OF MILK IN THE NEW YORK METROPOLITAN AREA, 1919 TO 1924

(Expressed in percentages of normal sales)

Price change	No. of changes	Commodity	Average deviation in sales following change in price					
			1st wk.	2nd wk.	3rd wk.	4th wk.	5th wk.	Av. of 5 wks.
Decrease of one cent per unit	11	Grade B quarts	+ 0.5	+ 1.0	+ 0.4	+ 0.2	+ 1.1	+ 0.6
	12	Grade A quarts	+ 0.4	+ 0.8	+ 1.1	+ 1.0	0	+ 0.7
	6	Grade B pints	+ 1.5	+ 0.9	+ 0.9	+ 2.6	+ 2.8	+ 1.7
	12	Grade B bulk*	+ 0.5	+ 1.2	− 0.2	− 0.4	+ 0.9	+ 0.4
Increase of one cent per unit	10	Grade B quarts	− 0.2	− 0.2	− 0.7	− 0.4	− 0.6	− 0.4
	7	Grade A quarts	− 0.5	− 0.4	− 0.2	+ 0.1	+ 0.3	− 0.1
	4	Grade B pints	− 1.9	− 3.3	− 2.2	− 1.8	− 2.2	− 2.3
	12	Grade B bulk*	− 1.9	− 1.2	− 1.3	− 1.6	− 1.0	− 1.4
Increase of more than one cent per unit**	1	Grade B quarts	− 4.8	− 6.5	− 6.2	− 7.7	− 7.2	− 6.5
	1	Grade A quarts	− 7.9	−11.6	−11.9	−12.7	−12.1	−11.2
	1	Grade B pints	− 7.5	−13.9	−18.9	−13.9	−17.3	−14.3
	1	Grade B bulk	−14.3	−12.0	−12.2	−11.7	− 1.8	−10.4

* Weighted average of several fractional price changes ranging from ½ cent to 2 cents per quart.

** Grade B quarts and Grade A quarts, 2 cents; Grade B pints, 1½ cents per pint; Grade B bulk, 1½ cents per quart.

which had grown to look on milk prices as fixed. As a result, consumption was materially curtailed. Since then, the retail price has been changed many times, and consumers have become accustomed to a varying milk price. The effect of these changes on the demand for the different grades of milk is shown in the accompanying table.

From 1919 to 1924 there were thirteen increases and fourteen decreases in the price of a quart of Grade B milk. Other products were also subject to numerous price changes. Not all of these could be used in computing the effect on sales, because of the lack of comparable records during and following the milk drivers' strike. A sufficient amount of data are available, however, to show that, on the average, only a slight curtailment of sales follows a one-cent advance in the price of quarts; and similarly, that only a slight increase follows a one-cent recession. As might be expected, pint sales are affected to a greater extent by a one-cent change, because of the smaller unit.

At one time, the price of both Grade A and Grade B quarts was advanced two cents. In both cases, serious decreases in demand followed. A single instance cannot be taken as conclusive, but it appears that the psychological effect on consumers of a two-cent advance will seriously affect consumption. Coupled with the two-cent increase, however, was the fact that the new price for Grade B milk (eighteen cents) was the highest ever attained up to that time. During the next year, the price receded to fifteen cents and was then advanced one cent at a time, until eighteen cents was again reached. The last advance to that figure was followed by a decrease of over five per cent in the sales, indicating that seventeen cents marked the upper limit to which the price could be raised without an appreciable decrease in demand. In a like manner, sales of Grade B bulk milk and Grade B pints fell off ten and fourteen per cent respectively when the price of each was increased one and one-half cents.

It appears from the above and from a somewhat similar study in Chicago,* that the demand for milk is now relatively inelastic. In other words, milk is recognized as an inexpensive and essential food, and if the costs of producing milk rise, the retail price can be advanced one cent at a time with very little effect on sales. Undoubtedly, however, there is a limit beyond which the price cannot be advanced without a sharp fall in demand.

H. A. Ross

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* See Farm Economics No. 20, Dec. 20, 1924. pp. 205-207.

PRICES OF PUREBRED SHORTHORN CATTLE AND COMMON BEEF CATTLE

Prices of purebred Shorthorn cattle sold at public auction, as tabulated by J. H. Knox of the Illinois Agricultural Experiment Station, from the Breeders Gazette, are shown in Tables 1 and 2, Figures 1, 2 and 3..

The length of the cycle of purchasing power for the United States December 1 farm price of beef cattle, for all Shorthorns and for roan Shorthorn bulls ranges from 16 to 18 years. It takes from 8 to 9 years to make a production readjustment when prices of beef cattle are too high or too low.

Prices of Shorthorn cattle lag from 1 to 2 years after the price of the common farm cattle, and the prices of purebred Shorthorn bulls seem to lag even more.[1] The prices of purebred Shorthorns are results of the demand for beef steers, and hence rise and fall in price later.

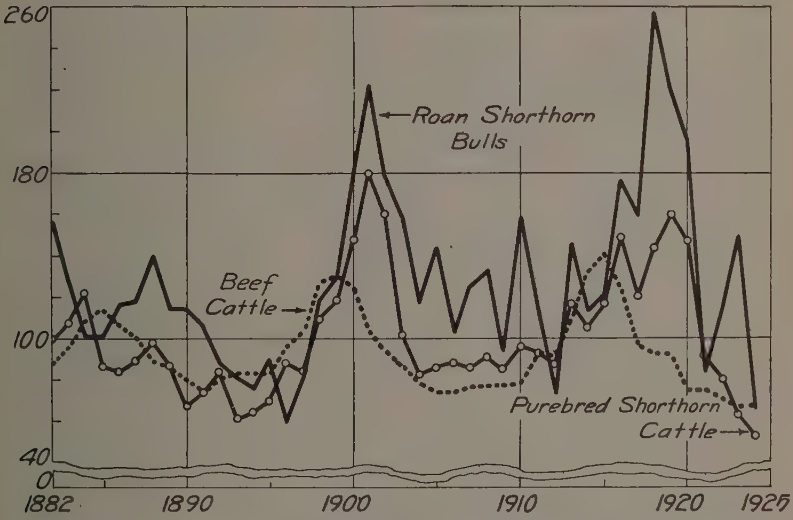

FIGURE 1.—PURCHASING POWER OF THE AUCTION SALE PRICE OF PUREBRED SHORTHORN CATTLE AND THE UNITED STATES DECEMBER 1 FARM PRICE OF BEEF CATTLE, 1882-1924.

There is a decided tendency for the price of purebred cattle to lag behind the price of grade cattle, and fluctuate much more violently.

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[1] PURCHASING POWER OF THE FARM PRICE OF BEEF CATTLE IN THE UNITED STATES CORRELATED WITH PURCHASING POWER OF THE SALE PRICE OF ALL SHORTHORN CATTLE AND WITH ROAN SHORTHORN BULLS, 1882-1924

	Coefficient of correlation
Shorthorn cattle	+0.553±.073
" " 1 year lag	+0.671±.064
" " 2 year lag	+0.730±.053
Roan shorthorn bulls	+0.171±.100
" " " 1 year lag	+0.253±.097
" " " 2 year lag	+0.483±.085

The price of shorthorns lag from 1 to 2 years after the farm price of beef cattle.

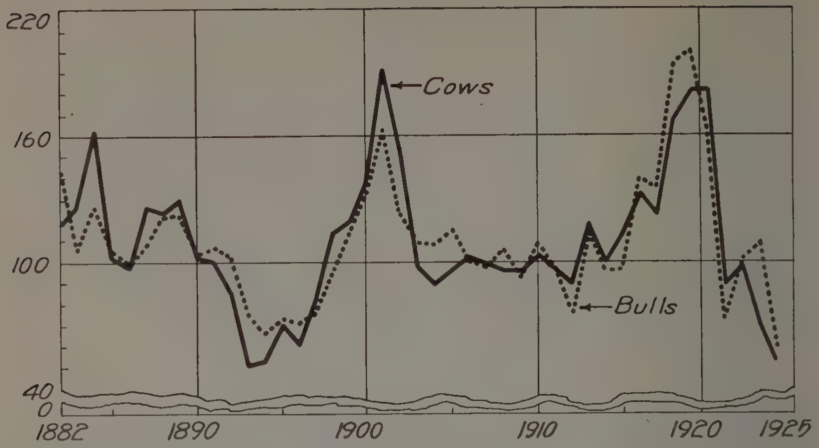

FIGURE 2.—PURCHASING POWER OF THE AUCTION SALE PRICE OF PUREBRED SHORTHORN COWS AND BULLS, 1882-1924.
The cycle in the price of bulls and cows is remarkably uniform.

TABLE 1. AUCTION PRICE AND PURCHASING POWER OF RED, WHITE, AND ROAN SHORTHORN BULLS, 1882-1924.

Year	Red Bulls			Roan Bulls			White Bulls			All Bulls		
	Average price per head	Index number 1910-14 =100	Purchasing power 1910-14 =100	Average price per head	Index number 1910-14 =100	Purchasing power 1910-14 =100	Average price per head	Index number 1910-14 =100	Purchasing power 1910-14 =100	Average price per head	Index number 1910-14 =100	Purchasing power 1910-14 =100
1882	$302	139	147	$320	148	157				$303	135	144
1883	219	101	112	188	86	96				232	95	106
1884	246	113	134	185	85	101				239	107	127
1885	193	89	110	178	82	101				191	85	105
1886	181	83	102	204	94	116				179	80	99
1887	196	90	110	214	98	119				200	89	107
1888	207	95	114	319	117	141				226	101	122
1889	231	106	132	199	92	114				225	100	123
1890	195	90	110	202	93	113				191	85	103
1891	197	90	111	188	87	107				195	87	107
1892	180	83	109	147	67	88				175	78	103
1893	131	60	77	136	63	81				132	59	76
1894	100	46	66	114	53	76				102	46	66
1895	114	53	75	137	63	89				117	53	75
1896	109	50	74	87	41	60				107	48	71
1897	115	53	78	121	56	82				116	52	76
1898	151	69	97	182	84	118				155	69	97
1899	191	88	116	213	98	129				194	87	114
1900	230	106	129	323	149	182				246	110	133
1901	274	126	155	388	179	221				296	132	163
1902	217	100	116	334	153	178				240	107	124
1903	185	85	98	299	138	159				212	95	109
1904	208	96	110	220	102	117				211	94	108
1905	175	75	85	275	127	144				228	102	116
1906	201	92	113	202	93	103				205	91	101
1907	189	88	93	260	119	125				211	94	98
1908	191	89	97	265	121	132				219	98	107
1909	196	90	91	200	92	93	$352	162	164	204	91	92
1910	179	83	81	353	163	158	274	126	122	253	113	110
1911	181	83	87	234	106	112	216	100	105	206	92	97
1912	180	83	82	160	74	73	215	99	98	172	77	76
1913	200	92	90	324	149	146	306	141	138	262	117	115
1914	180	83	83	245	113	113	311	143	143	216	96	96
1915	197	91	88	272	125	121	300	138	134	233	100	97
1916	266	123	95	494	227	176	570	262	203	405	181	140
1917	395	182	101	622	287	159	553	255	142	547	244	136
1918	224	93	47	1103	508	257	943	434	219	859	384	194
1919	507	223	106	1008	464	221	1123	517	246	944	422	201
1920	272	125	54	981	452	197	951	438	190	835	373	162
1921	159	73	49	273	126	84	282	130	87	246	110	73
1922	364	168	111	377	174	114	255	118	78	347	155	102
1923	450	207	132	509	234	149	188	87	55	387	173	110
1924	191	88	58	216	99	65	183	84	55	204	91	60

TABLE 2.—UNITED STATES DECEMBER 1 FARM PRICE OF CATTLE OTHER THAN DAIRY COWS, THE AUCTION PRICE OF SHORTHORN COWS, AND ALL PUREBRED SHORTHORN CATTLE, 1882-1924

Year	Cattle other than dairy cows			Purebred shorthorn cows			All purebred shorthorn cows and bulls		
	U. S. farm price	Index number 1910-14 =100	Purchasing power 1910-14 =100	Average price per head	Index number 1910-14 =100	Purchasing power 1910-14 =100	Average price per head	Index number 1910-14 =100	Purchasing power 1910-14 =100
1882	$19.89	84	88	$248	111	118	$189	97	100
1883	21.81	92	96	260	116	129	199	102	107
1884	23.52	99	108	305	136	162	212	109	122
1885	23.25	98	114	184	82	101	138	71	86
1886	21.17	89	107	179	80	99	135	69	84
1887	19.79	84	101	233	104	126	145	74	89
1888	17.79	75	89	231	103	124	160	82	98
1889	17.05	72	86	234	105	130	141	72	86
1890	15.63	66	79	186	83	101	110	56	67
1891	14.76	62	75	182	81	100	120	61	74
1892	15.16	64	80	146	65	86	127	65	84
1893	15.24	64	82	89	40	51	93	48	61
1894	14.66	62	83	85	38	54	88	45	64
1895	14.06	59	83	112	50	70	97	49	69
1896	15.86	67	96	94	42	62	117	60	88
1897	16.65	70	103	127	57	84	111	57	84
1898	20.92	88	126	182	81	114	153	58	110
1899	22.79	96	130	204	91	120	179	92	119
1900	24.73	105	125	258	115	139	236	121	146
1901	19.93	84	104	346	155	191	286	146	180
1902	18.76	79	94	295	132	154	270	138	160
1903	18.45	78	87	191	85	98	174	89	101
1904	16.32	69	78	177	79	91	140	72	82
1905	15.15	64	74	193	86	98	148	76	86
1906	15.85	67	74	205	92	102	157	80	88
1907	17.10	72	76	215	96	100	162	83	86
1908	16.89	71	76	199	89	97	165	84	91
1909	17.49	74	76	212	95	96	163	84	84
1910	19.07	81	78	237	106	103	196	100	97
1911	20.54	87	92	207	92	97	171	88	93
1912	21.20	90	91	203	91	90	173	88	87
1913	26.36	111	109	269	120	118	231	119	117
1914	31.13	132	132	224	100	100	205	105	105
1915	33.38	141	141	261	117	114	236	121	117
1916	33.53	142	123	383	171	133	380	194	149
1917	35.88	152	97	498	223	124	425	218	120
1918	40.88	173	92	739	330	167	556	285	144
1919	44.22	187	92	851	380	181	658	337	160
1920	42.18	178	75	931	416	181	673	344	148
1921	30.60	129	75	301	134	89	267	177	91
1922	23.15	98	70	332	148	98	236	121	80
1923	24.81	105	66	249	111	71	192	98	62
1924	24.44	103	67	180	80	53	159	81	53

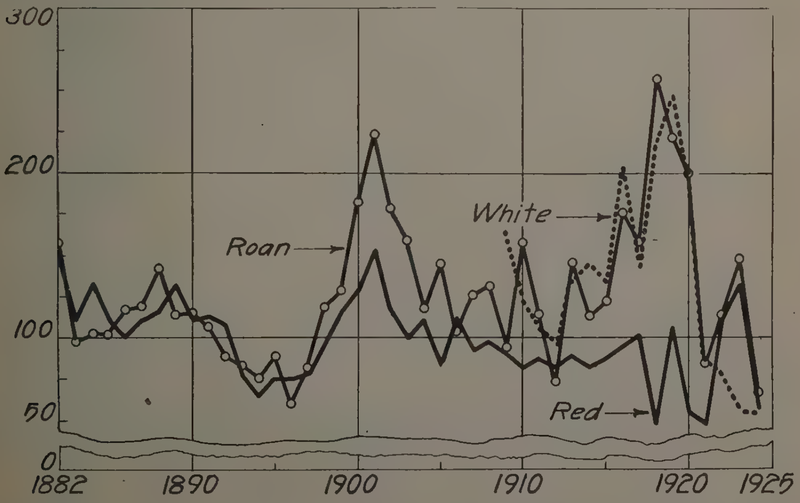

FIGURE 3.—PURCHASING POWER OF RED, ROAN, AND WHITE SHORTHORN BULLS, 1882-1924.

During the past 25 years, there has been a decided decrease in the price of red bulls. Apparently, white and roan bulls were in great demand.

The changes in the prices of Shorthorns are more violent than the price changes of common beef cattle. The prospects of greater profits when the price of beef cattle is rising encourages farmers to improve their herds by the use of more purebreds. The prices of purebreds are bid proportionally higher than the price of the common beef cattle. Conversely, the drop in prices of purebreds will be greater following the period of overproduction of beef cattle, as the farmers' demand stops. The period of lower than average prices is longer than the period of higher than average prices in case of both the common beef cattle and the Shorthorns.

The cycles of purchasing power of purebred Shorthorn bulls and cows swing together. At the peak of the cycle, extremely high prices are paid for a few bulls of the preferred beef type, blood lines and color. At the same time, more purebred beef bulls are used in the grade herds to improve the type of beef steers. Since the supply of purebred bulls is always more than sufficient for purebred needs, the price differentials between the few superior bulls used in the purebred herds and the common bulls used in grade herds are very great. The purebred breeders demands for purebred cows are more difficult to satisfy than their demands for purebred beef bulls. Competitive bidding among the purebred breeders will raise the prices of purebred beef cows more than the prices of the common purebred beef bulls. For this reason, aggregate changes in the prices of purebred bulls are no more violent than for purebred cows.

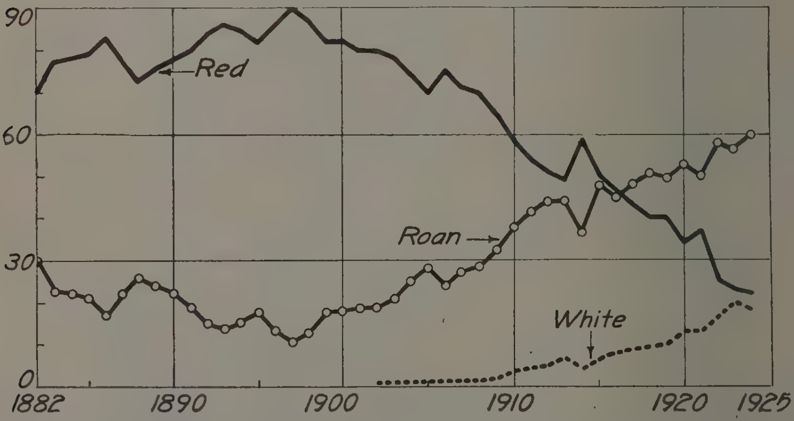

FIGURE 4.—COLOR PERCENTAGES OF SHORTHORN CATTLE, 1882-1924.

The percentage of red animals offered for sale at public auction is decreasing very rapidly, whereas the percentage of roan and white animals is increasing.

Prior to 1898, the breeders of Shorthorn cattle apparently had no preference for color, Figure 3 and 4. Since 1898, the purchasing power of roan Shorthorn bulls has been higher than for red bulls. The difference is greatest during the peak of the cycle. Since 1910, the purchasing power of the price of white bulls has followed that of roan bulls. The demand for white bulls is due not only to the demand for white color, but also to the fact that the use of white bulls results in a larger number of roan individuals.

O. Ulrey

FINANCING LOCAL COOPERATIVE ASSOCIATIONS THAT REQUIRE CAPITAL FOR PERMANENT INVESTMENTS

In a recent study of farmer's business organizations in New York State, special attention was given to their capital requirements and methods of financing. Great variation was found in the amount of capital required by local associations engaged in different types of business. Most of the cooperative milk plants and cooperative feed stores had large sums invested, while the cheese bargaining associations and wool marketing associations had almost no investment. Other types of associations ranged between these extremes. Thirty-nine of the 212 associations doing business in the state in 1925 had no permanent investments (Table 1).

TABLE 1. AMOUNT OF CAPITAL INVESTED BY LOCAL ASSOCIATIONS

Type of Business	Total number of associations	Number having no permanent investments	Number having permanent investments	Average capital for associations having permanent investments
Car-door feed and supplies	17	8	9	$ 1,323
Cheese bargaining associations	11	6	5	37
Cheese factories	16	0	16	3,804
Creameries	17	0	17	5,116
Farmers' telephone companies	11	0	11	418
Feed and supply stores	34	0	34	15,583
Fruit packing associations	34	5	29	8,017
Horse breeders' associations	5	0	5	3,180
Milk plants	20	0	20	27,608
Potato marketing associations	13	3	10	3,283
Vegetable marketing associations	11	5	6	4,197
Wool marketing associations	23	12	11	63
Total or average	212	39	173	$ 8,980

The sources of funds used by 86 capital-stock associations and 87 non-stock associations are shown in Table 2.

About 76 per cent of the liabilities of stock associations was in the form of capital stock, representing a permanent capital fund supplied by the members. In the case of non-stock associations, 98 per cent of the capital was borrowed, and almost half of the total was represented by loans from banks or persons other than members.

The capital stock associations borrowed principally on association notes endorsed by directors or other members, or on a mortgage. The non-stock associations borrowed from members on certificates of indebtedness and from banks and others on notes or mortgages.

TABLE 2. SOURCES OF CAPITAL USED BY LOCAL ASSOCIATIONS

Method of obtaining capital	Number of associations	Amount obtained	Per cent of total
	86 Capital-stock associations		
Capital stock[1]	81	$659,169	76.2
Membership fees	2	895	0.1
Loans from banks and others	29	205,450	23.7
Total		$865,514	100.0
	87 Non-stock associations		
Membership fees	31	$ 14,529	2.1
Loans from members	33	348,458	50.6
Loans from banks and others	55	325,113	47.3
Total		$688,100	100.0

[1] Five of the associations organized on the capital stock plan had not sold stock.

The kind of security given for borrowed capital by 125 associations is shown in Table 3. Altho both capital-stock and non stock associations are included, about two-thirds of the associations that operated on borrowed capital were non-stock associations. Over three-quarters of the total loans were obtained by non-stock associations.

TABLE 3. SECURITY GIVEN BY LOCAL ASSOCIATIONS FOR BORROWED CAPITAL

	Number of associations that borrowed on each kind of security	Total amount borrowed on each kind of security	Average amount borrowed per association on each kind of security
Note with directors' endorsement	9	$ 50,246	$ 5,583
Note with members' endorsement	10	54,446	5,445
Note and members' demand notes	28	146,913	5,247
Note and directors' demand notes	4	35,400	8,850
Certificates of indebtedness	32	330,458	10,327
Mortgage	20	152,200	7,610
No security	7	22,500	3,214
Security uncertain	15	86,858	5,790
Total or average	125	$879,021	$ 7,032

In general, the amount borrowed by capital-stock associations was not large enough to raise any serious problem. For the most part the funds borrowed by capital stock associations were used for working capital, and were mostly secured by permanent investments of members equal to about three times the amount of borrowed capital. The non-stock associations depended almost entirely upon borrowed capital. In most cases the money obtained thro the issuing of certificates of indebtedness was repayable in 5 annual installments. Bank loans were of short duration, tho frequently renewed. This method of financing made it necessary for the non-stock associations to create a surplus fund from each year's business in order to retire the maturing capital obligations. Where competition was keen, this was very difficult. Many non-stock associations have found it impossible to hold their patronage when they paid producers lower prices than competitors were paying, even tho members were promised additional payments later. Some members doubted the ability of the associations to make the additional future payments. Many farmers have found it difficult to assist in financing an association, even tho they wished to cooperate.

The capital-stock method of financing has many advantages over the non-stock method for local asociations requiring capital for permanent investments. When the non-stock form is used, money should be raised on as permanent a basis as possible.

J. F. Booth

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 44 APRIL, 1927

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm Prices		United States Prices of Food		Cost of living United States[4]	Weekly earnings N. Y. factory workers[5]	Prices of 70 indust'l stocks[6]	Interes. ratet 4-6 moss comm'l. paperl[7]
		New York[2]	United States[2]	Farm[3]	Retail[3]				
1913	102	97	99	100	103	100		96	115
1914	100	103	101	105	106	103	101	96	99
1915	103	100	101	106	107	105	104	119	71
1916	129	116	119	117	117	118	116	152	71
1917	180	170	180	181	156	142	132	140	98
1918	198	186	206	200	180	174	164	130	121
1919	210	206	215	213	194	199	190	160	112
1920	230	217	214	207	207	200	227	144	153
1921	150	144	119	130	163	174	207	118	135
1922	152	134	124	121	150	170	202	146	92
1923	157	142	137	124	154	173	220	155	102
1924	152	128	140	126	153	173	223	166	81
1925	162	147	154	152	169	178	228	221	83
1926	154	156	142	154	174	176	234	247	88
July, 1925	163	150	156	157	172		226	222	80
Aug.	163	156	160	158	172		227	228	74
Sept.	163	148	152	150	170		228	236	76
Oct.	160	147	151	149	171		230	243	78
Nov.	161	165	153	159	173		231	248	84
Dec.	159	159	152	159	171	178	234	250	87
Jan., 1926	159	158	150	157	174		234	252	99
Feb.	158	156	150	156	175		230	255	100
Mar.	154	158	145	154	177		234	239	97
Apr.	154	171	146	158	180		233	232	96
May	155	176	145	161	179		231	233	93
June	155	176	146	161	177	175	234	242	87
July	154	163	143	156	172		232	249	81
Aug.	152	150	140	147	169		233	256	79
Sept.	154	148	140	148	171		236	254	78
Oct.	153	140	134	148	171		237	246	81
Nov.	151	150	135	151	170		235	250	85
Dec.	150	145	133	150	169	176	238	256	87
Jan., 1927	150	142	130	145	171		237	252	96
Feb.	149	142	132	145	171		237	258	95
Mar			131					261	90

(For footnotes see next page.)

BUSINESS CONDITIONS

The Federal Land Bank of Springfield, has lowered the interest rate on new loans, to 5 per cent. Borrowers of the bank have to subscribe for $5 worth of stock in the bank for each $100 borrowed. Since the bank is cooperative the borrowers get all the profits above necessary reserves. If the dividends average 5 per cent, the net cost of the loan to the borrower is 5 per cent. If no dividend were ever paid, the net cost would be 5.3 per cent. The bank paid dividends of 5½ percent in 1925 and 4 percent in 1926.

Industrial stocks are very high, being 261 per cent of pre-war.

Weekly earnings of New York factory workers are 237 per cent of pre-war. There is a slight surplus of labor throughout the country.

The general price level again receded in February and is now 9 points below the level of a year ago. The recession in wholesale prices has been rather wide spread.

TABLE 1.—CHANGES IN THE INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES. FEBRUARY 1926 AND 1927.

1913 = 100

Group	February 1926	February 1927	Points Change
Clothing	184	169	−15
Miscellaneous	133	119	−14
Farm products	150	137	−13
Chemicals and drugs	132	122	−10
Building materials	177	168	−9
Metals and metal products	128	122	−6
Household furnishings	164	158	−6
Foods	153	148	−5
Fuels	179	177	−2
All commodities	155	146	−9

Farm Prices

The index number of United States farm prices in March was 131, compared with 132 in February and 145 a year ago. During March, the index numbers of the prices of 15 farm products fell; 7 rose and one was stationary. Potatoes fell 14 points; eggs, 13; hogs, 10. Butter and cotton rose 7 points. The index number of the price of beef cattle did not change.

Feed Prices

The protein feeds have been rising in price. They have been very cheap compared with other things. The index number of the cost of a dairy ration has risen 11 points since September, and the poultry ration has risen 12 points. It is not to be expected that feed can continue at present prices, unless there are very large crops of grain this year. The demand for dairy feeds is increasing and the number of hogs will undoubtedly increase next spring if not this year.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923 Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February 1927.

[4] Reported by the United States Bureau of Labor Statistics, 1913 = 100. Monthly Labor Review Vol. XXIV, No. 2, p. 168, February 1927.

[5] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[6] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14, base by multiplying by 2.05.

[7] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

Hogs

The centers of the major high points in the hog cycle during the past 65 years have averaged about 5 to 8 years apart.

Hogs were very high in price in 1919. They were again high in 1926, but have since declined somewhat. The center of the next high priced period is to be expected about 1933.

The center of the last low-priced period was in 1923. A general decline in purchasing power is to be expected until about 1930.

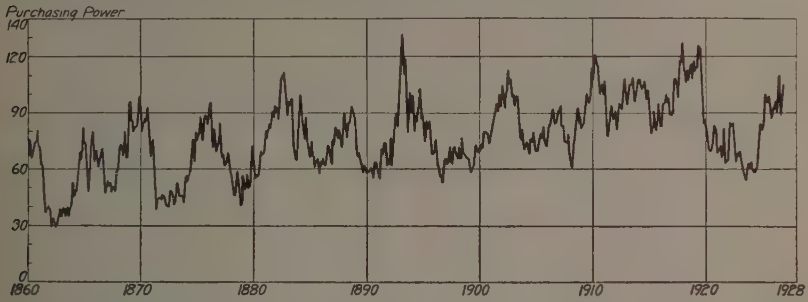

FIGURE 1.—PURCHASING POWER OF HEAVY HOGS AT CHICAGO, 1860-1926
The centers of the major cycles of low prices are 5 to 8 years apart. If this cycle is of the usual length, hogs may be expected to decline in purchasing power until about 1929 to 1930; and may be expected to be high by 1933.

Beef

In December 1921, beef cattle sold for $4.62 per hundredweight. This was the lowest price in nearly 10 years. Since that time, prices have risen to $6.82 per hundredweight in March 1927. Based on the five-year pre-war average, prices have risen from an index number of 89 to 129. Cattle are still cheap, but this striking rise in price has occurred in spite of the agricultural depression. So far as beef cattle are concerned, the years of losses have resulted in so great a curtailment in production that the depression in this industry will soon disappear.

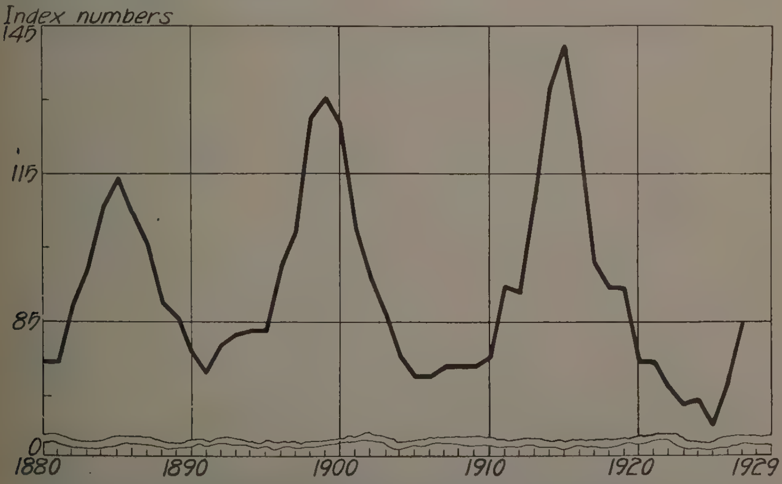

FIGURE 2.—PURCHASING POWER OF BEEF CATTLE[1], 1880-1927
The major centers of high prices average about 16 years apart. The last high was in 1915. If the cycle is of average length, beef cattle may be expected to rise in purchasing power until about 1931.

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[1] Cattle other than dairy cows as reported by the United States Department of Agriculture.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.4
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.5
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	120	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
April	65.7	39.4	142.2	54.8	82.5	207.0	3.28	16.6	12.78	......	270.5	180.4
May	67.1	39.5	142.1	55.1	85.0	205.4	3.31	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	......	126.4	110.6
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	......	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	......	137.0	94.0
1927												
January	64.3	42.6	122.2	58.0	83.6	193.0	2.99	10.6	13.38	......	139.1	97.8
February	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	......	134.1	109.0
March	65.2	43.4	120.9	62.2	86.0	195.1	2.76	12.5	13.48	......	127.0	112.3

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	08	215	139	128
1923	124	104	112	91	130	140	177	215	103	166	121	110
1924	141	119	126	110	141	129	158	216	111	151	125	159
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	......	267	176
1926												
April	106	97	160	85	114	120	150	106	134	......	397	194
May	104	96	158	85	116	117	146	127	107	......	352	197
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165
October	106	100	139	90	119	118	127	97	113	......	183	130
November	104	103	140	93	117	121	133	91	114	......	236	116
December	110	106	143	93	117	127	134	82	109	......	226	130
1927												
January	110	111	140	95	118	119	133	86	114	......	222	125
February	112	110	138	96	119	115	132	94	114	......	204	131
March	108	108	136	99	122	112	127	101	112	......	190	128

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
	bu.	head	lb.	doz.	lb.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
April	143	84	23.1	24.8	41.1	65.65	6.66	9.45	7.67	11.32	33.2	11.49
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97
1927												
January	97	73	20.1	36.9	44.0	66.77	6.45	9.75	6.87	10.65	30.9	10.97
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19
March	100	79	21.3	20.8	43.5	70.18	6.82	10.10	7.41	11.55	31.3	10.89

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
April	125	58	201	145	162	133	121	140	151	175	184	151
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	159
September	125	56	180	163	166	134	121	143	163	201	188	156
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163
1927												
January	100	53	188	125	155	141	128	144	149	184	167	156
February	96	54	194	110	161	143	129	149	157	182	168	157
March	92	55	190	97	168	144	129	146	155	186	167	147

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buckwheat	Beans	Hay	Potatoes	Apples	Horses
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1926										
April	90	51	158	74	85	3.54	14.10	300	130	133
May	89	53	158	76	89	3.60	14.50	290	124	133
June	88	50	157	77	94	3.60	15.00	225	135	133
July	88	52	149	72	97	3.48	15.30	170	140	129
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115
1927										
January	86	50	131	71	85	3.24	14.00	150	90	115
February	89	51	132	73	86	3.36	14.40	135	87	123
March	87	52	132	76	88	3.24	14.00	120	95	120

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buckwheat	Beans	Hay	Potatoes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
April	127	104	158	96	116	155	91	435	126	75
May	122	106	158	96	119	153	92	403	110	73
June	117	98	154	96	122	154	92	321	138	74
July	116	102	148	92	115	144	96	246	159	74
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65
1927										
January	119	111	132	95	120	138	92	234	111	66
February	125	109	132	97	119	144	95	196	100	70
March	123	111	132	99	124	140	90	176	106	68

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens	Eggs	Eggs[1] N.Y.C.	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
	lb.	doz.	doz.	lb.	cwt.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	[illegible].44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
April	28.5	31	35.3	47	2.37	90.00	11.80	6.50	6.00	12.00	37	12.40
May	28.4	29	35.8	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	28.1	30	36.9	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	28.0	32	40.0	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61	59.7	52	2.85	95.00	12.00	5.60	5.60	11.80	37	12.10
1927												
January	25.7	48	46.0	51	2.72	92.00	12.40	5.60	5.80	11.50	35	11.60
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10
March	27.0	27	31.3	51		100.00	12.20	6.00	6.20	12.20	33	11.60

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	185
1918	184	182	182	161	204	167	180	162	233	236	314	213
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1926												
April	193	148	157	157	162	159	152	121	132	176	176	159
May	191	153	157	159	184	165	140	103	148	188	175	158
June	185	150	151	164	193	162	146	113	134	202	170	170
July	184	145	147	167	175	165	141	103	139	187	167	168
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149	121	153	149	168	137	103	129	192	176	165
1927												
January	189	126	116	150	143	171	147	106	139	179	159	156
February	186	125	106	155	149	179	152	111	133	181	164	161
March	190	96	121	165		179	146	115	145	189	157	149

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
April	35.71	37.65	31.50	37.53	33.31	32.61	34.88	52.58	41.44	67.30	37.21	42.12
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	63.80	36.30	40.99
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	63.80	36.12	40.55
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	73.80	37.53	42.58
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96
1927												
January	37.94	37.25	35.30	41.79	34.30	35.70	35.60	50.84	38.70	75.80	38.12	41.82
February	37.85	38.65	34.63	40.68	35.06	36.75	36.00	51.43	42.31	79.80	38.91	42.52
March	36.94	38.65	33.00	40.40	34.63	36.38	35.63	50.55	42.50	76.80	38.57	41.92

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
April	129	135	120	116	129	127	131	157	127	128	130	133
May	120	138	112	111	124	116	129	154	127	122	127	128
June	121	140	111	110	125	117	126	154	127	122	127	127
July	132	150	120	111	128	117	128	160	129	141	133	132
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133
1927												
January	138	123	127	135	132	137	132	147	118	146	129	134
February	138	126	125	128	133	140	133	148	132	153	131	135
March	138	132	124	127	132	140	131	152	133	147	133	134

From 1920 to 1925, the number of cattle in the United States decreased 8 per cent. The decrease is continuing. The decrease in the last three years as estimated by the Department of Agriculture indicates that the total decrease since 1920 is about 14 per cent. Since 1920, the population of the United States increased 11 per cent. Since there is a shortage of the younger ages of cattle, the period of highest prices will not occur for several years. It will probably come about 1931.

The beef cycle averages about 8-9 years from low to high. Purchasing power has risen since January 1923 almost the same amount that it rose from 1907 to 1911. Judging by the experiences of the past 55 years, beef cattle will continue to rise in prices at an accelerated rate for four years. By that time, public interest in them probably will be on how to get a supply of beef, rather than on how to get rid of a supply. If past experiences are repeated, soon after that time a commission will be appointed to study the question as was done in 1913.

It is perfectly easy to get a supply of beef, and perfectly easy to get rid of it, but it takes about 8 years to do either one.

Milk Production

The farm price of milk remained practically stationary from 1908 until the fall of 1916. This long period of stationary milk prices when other commodities were rising resulted in such heavy losses that a commission was appointed by the New York State Legislature to study the milk question. Low prices resulted in failure to raise sufficient number of heifer calves. This brought about a shortage of dairy cattle, high prices for milk, and stimulated the raising of dairy cows. The low prices for milk that followed in 1922-25, have resulted in a reduction in dairy cattle, particularly in the number of heifers being raised. From 1920 to 1925, dairy cattle in the United States decreased 10 per cent. According to estimates of the United States Department of Agriculture, the number of heifers, one to two years, on New York farms decreased from 253,000 in 1920, to 178,000 in 1927. Another favorable factor for the dairymen is the fact that the price of beef is improving. This makes it possible to obtain better prices for discarded cows.

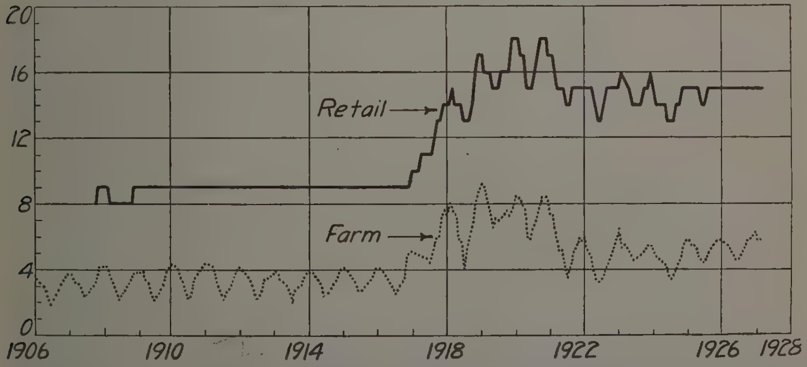

FIGURE 3.—PRICES IN CENTS PER QUART PAID TO FARMERS AND PRICES PER QUART FOR MILK AT RETAIL IN NEW YORK CITY, 1906-1926

From 1908 to the fall of 1916, milk retailed in New York City at 9 cents per quart, regardless of supply and demand. The failure of milk prices to rise when everything else was rising resulted in a serious underproduction and a violent rise in price.

The first indication of a shortage of dairy cows is a shortage of milk in the fall and early winter. Apparently the most serious part of the agricultural depression for the dairy farmer has passed.

In some rather large areas in New York State, the most important cash crop for many years was timothy hay. New York can very easily increase its milk supply by 25 to 50 per cent. The present dairy farms are not stocked to capacity. There are empty stanchions in many barns. By using lime, great increases in production of hay and pastures can be brought about. There are some large areas in New York that formerly depended on hay as a cash crop. Because of autos and trucks, the market for hay has largely disappeared. Farmers in these districts are looking for a new type of farming. They will gladly enter the dairy business when they feel confident that milk will sell for enough money to pay for fixing the barns.

A material increase in milk production can be made on a few months notice by heavier feeding of the cows that are now kept, if the milk will pay for the extra feed. The old cows may be kept for a longer period of time. It is also possible to import cattle from other states. Ordinarily New York raises a surplus of cattle, but last year the state shipped in 10,000 dairy cows more than were shipped out. Because of the failure to raise calves in the last few years, it is probable that considerable numbers of cows will be brought in for several years.

While it is very easy to greatly increase milk production, it requires time. The dairy heifer which is raised this year is the milk cow for 1929-1935. If milk is so cheap that too few heifers are raised, the results will be apparent in the future.

Eggs

Eggs are below pre-war farm prices. For several years, the good wages and full employment made a high demand for eggs. The resulting good prices for eggs at a time when many other products were not paying, caused a great increase in egg production. The better prices for milk and low prices for eggs probably will check the rapid expansion of egg production.

Stabilized Production versus Stabilized Prices

It is in the interest of the consumer, that a stable supply of milk be available, rather than have alternate periods of surplus and shortage. It is in the interest of the producer that the price be such as to sustain the industry rather than have successive periods of profits and losses. The statement is commonly made that supply and demand govern prices, but there is a strong tendency for retail prices of milk to stay fixed regardless of supply or demand. For eight years before the war, grade B milk in bottles sold in New York City for 9¢ per quart, regardless of summer or winter, regardless of rain or draught, regardless of the price of feed, regardless of the supply of milk or demand for milk, and regardless of the investigating committees.

Studies by Ross, indicate that moderate changes in the retail price of milk do not materially affect the consumption. The retail price of milk ought to fluctuate with supply and demand. By thus fluctuating, supply can be stabilized. Many persons are very anxious to have a fixed price. If any commodity is sold at a fixed price, regardless of varying costs, consumers must expect violent fluctuations in supply. Fluctuating prices will tend to bring about a more uniform supply and over a series of years will not result in a higher average price.

G. F. Warren and F. A. Pearson

LENGTH OF THE AGRICULTURAL DEPRESSION

There is never a year when all types of farming are unprofitable and never a year when all types pay. Even during the agricultural depression, those farmers, who retailed their own products generally did well. Farmers so located that they could reach wholesalers or retailers without going thru all the usual channels of trade have often done well.

Some large areas have suffered much less than others. Regions near the large markets have suffered less than those far away. North Carolina has not had a serious agricultural depression. It has escaped serious damage from the boll-weevil and has profited from the boll-weevil injury in other regions. The tobacco crop has sold well in some years.

The depression will be over when agriculture, as a whole, has as many kinds of profitable crops and as many profitable areas as are normal.

By 1931, beef cattle may be expected to bring good prices. Dairy cattle probably will still be short in numbers due to shortage of one-to-four-year-olds now. Hogs will probably decline in price but be high again soon after that time. If the building depression lasts the usual length of time, there will at that time be too many houses in cities. All these factors will combine to place agriculture in a relatively much better position than at present.

If the dollar does not rise in value, that is, if wholesale prices of all commodities do not decline, the agricultural depression may be over by that time. If further deflation occurs, the depression may continue.

G. F. Warren and F. A. Pearson

EFFECTS OF INFLATION AND DEFLATION ON PROFITS MADE BY DANISH FARMERS

Cost accounts on about five hundred Danish farms, furnish a good illustration of the effects of inflation and deflation on agriculture. In 1920-21, American farmers were experiencing a severe agricultural depression; but deflation had not occurred in Denmark, and Danish farmers were having a period of prosperity. They made 5.8 per cent on their capital. Deflation began in Denmark in the summer of 1921, a year after it began in the United States. Prices fell from an index of 341 in January

NET EARNINGS ON CAPITAL IN AGRICULTURE IN THE UNITED STATES AND IN DENMARK, AND WHOLESALE PRICES FOR THE JANUARY INCLUDED IN THE ACCOUNTING YEAR.

	United States		Denmark	
	Wholesale prices January 1	Per cent made on capital*	Wholesale prices January 1	Per cent made on capital**
1919-1920	237	6.3	340	7.4
1920-1921	173	0.5	341	5.8
1921-1922	141	1.2	178	0.9
1922-1923	159	3.2	181	4.5
1923-1924	154	3.5	210	6.1
1924-1925	163	4.4	234	6.4
1925-1926	159	4.6	157	1.3

*Crops and Markets, Vol. 3, Supplement 7, p. 228, July 1926.

**Wholesale prices are given in various numbers of the Statistisk Aabog, and also given in publications of the Federal Reserve Board.

Profits made on the capital value of Danish farms were furnished by Professor O. H. Larsen.

1921 to 178 in January 1922. Prices were about halved, and returns fell to 0.9 per cent. Gradual inflation occurred and profits rose. Wholesale prices rose from 178 in January 1921, to 234 in January 1925; and farmers made 6.4 per cent on their capital for the year 1924-1925. Prices then fell from 234 in January 1925, to 157 in January 1926; and preliminary reports indicate that returns on capital for the year 1925-1926 averaged about 1.3 per cent.

American farmers have had seven years of agricultural depression. Danish farmers had an excellent year in the first year of our depression, had a very bad year when they deflated in 1921-1922, had two good years as reinflation occurred, and had a very bad year in 1925-1926 when deflation again occurred.

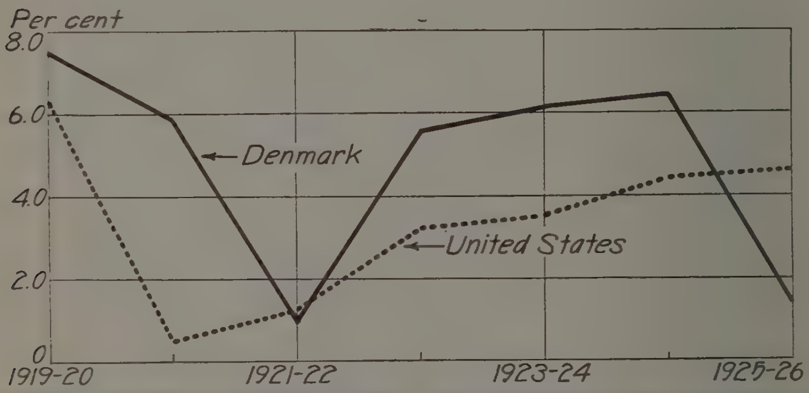

FIGURE 1.—PERCENTAGE MADE ON CAPITAL ON FARMS IN THE UNITED STATES AND ON FARMS IN DENMARK, 1919-20 to 1925-26.

Profits in these two countries have followed different courses. They are more closely associated with inflation and deflation than they are with each other. Agriculture is more affected by financial policies than it is by world markets.

In 1925-26 the Danish farms that averaged about 100 acres in size lacked about $300 of making interest on the investment without paying the operator for his time. The farms of over 247 acres lacked about $5000 of making interest on the investment without allowing the farmer anything for his labor. The value of the farm property on these farms also declined about $6000.

With the financial deflation of 1925-26, wholesale prices declined 37 per cent, feed prices declined 43 per cent, whereas wages declined only 6 per cent. This shows the inevitable effects of deflation. It also explains why the large farms suffered more than the small farms, just as they did in the United States. The cash outlay for the small farm is for commodities which declined somewhat with deflation. The cash outlays for large farms include wages which are little effected by deflation.

Some persons attribute the agricultural depression to overproduction, and think that overproduction has been continuous since 1920. Danish farmers made good profits in three of these years. Evidently, overproduction cannot explain the results in both Denmark and in the United States.

G. F. Warren and F. A. Pearson

EXTENSION OF THE NEW YORK MILK SHED

There has recently been considerable discussion as to the necessity and advisability of extending the present New York City milk shed to take in dairy farms which are not now approved by the Department of Health. This has resulted from the fact that during the last two years, the supply of approved milk in November has been little more than enough to meet the demand. The situation in this state is clearly shown by the excellent records of the production and utilization of milk which are published annually by the New York State Department of Agriculture and Markets. Unfortunately, similar statistics are not available for neighboring states, but the reports of the 1925 Census of Agriculture are now being issued, and the data serve to picture the availability of supplies in the more distant territory. In the following charts, the production of milk, sale of whole milk, and sale of cream are shown graphically in terms of the milk equivalent. Each dot represents 2,000,000 gallons of milk, so the charts are directly comparable except in the case of the Canadian production shown in Figure 1. No comparable data on production in Canada were available, so the dots in this chart represent the combined sales of whole milk and cream, but do not take into account the milk used locally on the farms or in villages too small to have milk plants.

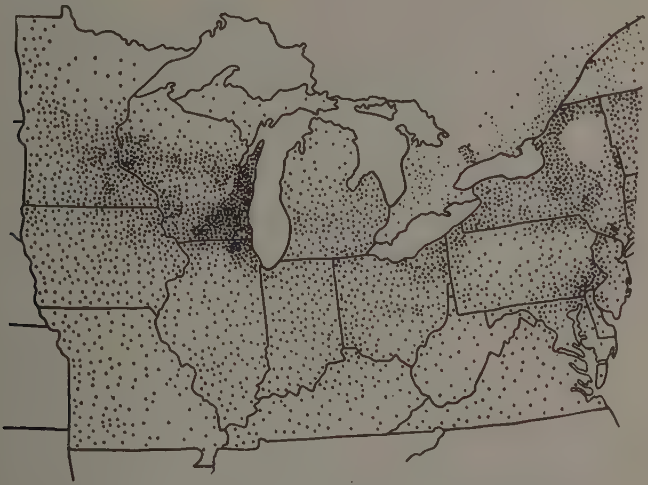

FIGURE 1.—MILK PRODUCED DURING 1924 (1925 CENSUS)

Each dot represents 2,000,000 gallons of milk. Sufficient milk is produced in all regions to supply farm homes and villages with the necessary dairy products. The heaviest production is found about the cities and in the great condensed milk, butter, and cheese districts of Wisconsin, Minnesota and Iowa.

From Figure 1 it will be noted that altho dairying is practiced throughout the entire region, the production of milk is relatively light in the southern tier of states and in much of Indiana, Illinois and Iowa. A greater concentration of dots is found in the New York milk district, and in the regions about Philadelphia, Baltimore, Washington, Pittsburgh, Cleveland, Detroit, and Cincinnati. The heaviest production is found, of course, in the Chicago milk shed and in the cheese, condensed milk, and butter regions of Wisconsin. Even the most intensive dairy districts in New York fail to approach the heavy production in this area. Further west, the intensity of production is less, although the regions about Minneapolis—St. Paul and in north-eastern Iowa show about the same concentration of dots as New York State.

Casual inspection of this map would suggest that there is a readily available supply of milk all around the present New York territory. An entirely different situation is presented, however, by the next two charts in which the milk used locally on farms is eliminated from the picture.

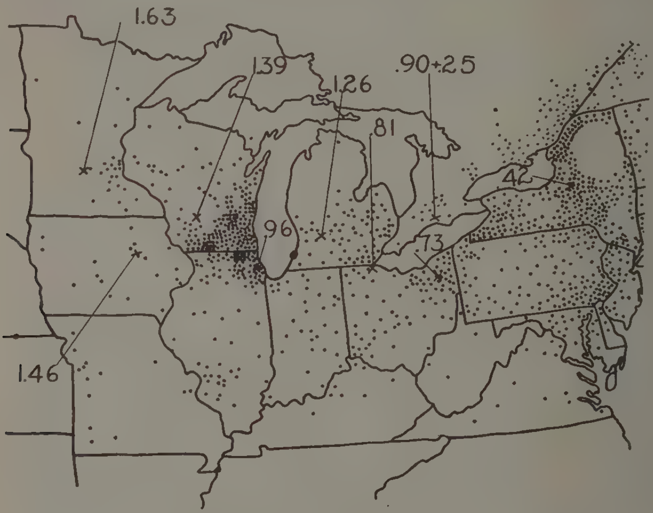

FIGURE 2.—WHOLE MILK SOLD DURING 1924 (1925 CENSUS)

Each dot represents 2,000,000 gallons of milk. The sale of whole milk from farms is largely limited to city milk sheds and to the cheese and condensery regions. The cost of shipping a forty-quart can of milk to New York from various points is shown by the figures.

Figure 2 shows the sales of whole milk from farms, without regard to whether it is used for fluid consumption, condensed milk, cheese, or butter. Not only is the sale of whole milk from farms almost negligible in the southern states, but the same may be said of most of Ohio, Indiana, Illinois, Iowa, Minnesota, and even of the northwestern three-fourths of Wisconsin. The milk that is sold in these regions is used largely by the towns and cities scattered throughout the territory, although a relatively small amount is condensed in a few of the states. The very heavy sales of whole milk in northern Illinois and southeastern Wisconsin represent not only the fluid milk supply of Chicago and the surrounding cities, but also approximately one-third of the nation's condensed and evaporated milk production and two-thirds of the cheese production.

Figure 3 shows the milk equivalent of the sweet and sour cream sold from farms in this region. In New York, Pennsylvania, New Jersey, and the southern states, the sales are very small. In Ohio, Indiana, Michigan, Illinois, Missouri and the southern half of Iowa, cream sales are somewhat heavier. All but a small percentage of the cream in this region, however, is shipped long distances to centralizer creameries as sour cream. In other words, the cow population in most parts of this region is too scattered to support even a small local creamery, to say nothing of a milk shipping station. Probably 85 per cent of all the butter in this area is made from cream so sour that it must be neutralized before it can be made into a reasonably good grade of butter.

On the other hand, Wisconsin, Minnesota, and northeastern Iowa produce sufficiently large amounts of sweet cream to ship in car load lots, and from these states have come most of the western shipments to eastern markets. Not all of the cream shipped east was sold as such from the farm. Much of it came from milk plants or condenseries to which dairymen had delivered whole milk.

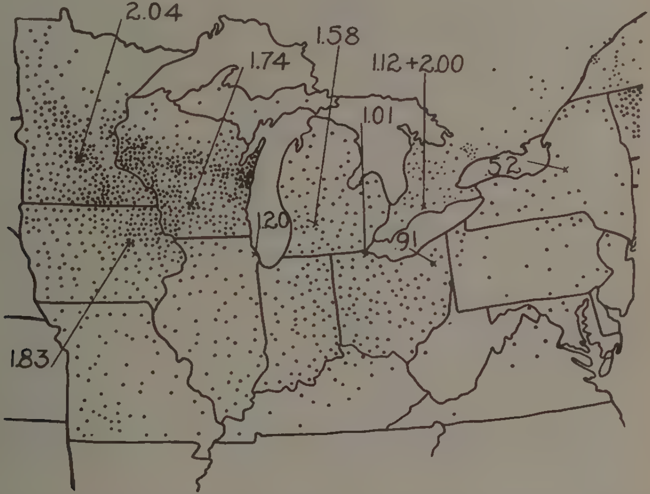

FIGURE 3.—CREAM SOLD DURING 1924 (1925 CENSUS)

Each dot represents 636,400 pounds of fat, equivalent to 2,000,000 gallons of milk. Sales of cream for butter are heaviest in Wisconsin, Minnesota and Iowa. A considerable proportion of this cream is sweet when delivered to the creameries. Most of the cream sold in other parts of the Corn Belt is shipped long distances to centralizer creameries as sour cream. The figures show the cost of shipping a forty-quart can of cream to the New York market.

The car lot rates for shipping a forty-quart can of milk to New York from various points in this region are shown in Figure 2. Similarly, Figure 3 shows the car lot rate for a forty-quart can of cream. The western points were selected because, in the past, shipments of cream have been made to New York from these stations. Fluid milk has been shipped from the West only on rare occasions to relieve acute shortages. To the freight rate on milk and cream from Canada, must be added the duty of twenty-five cents and two dollars per can, respectively.

It will be noted that the rate for milk from Chicago is 96 cents per can, but since no milk is produced in the city, an additional charge of from 20 to 40 cents per can must be added. This makes the transportation cost about 85 cents per can, or $1.00 per hundred, higher than the rate from the center of the New York milk shed. Western milk prices have not been low enough to pay this difference and compete with New York milk. The transportation cost on cream, however, is such a small part of its value that western cream can pay the additional rate of approximately $1.25 per can and sell on eastern markets if they are willing to accept it without the careful inspection given the local supply. Under present conditions, points west of Indiana may be eliminated as possible sources of fluid milk because of the high transportation cost. The South, as an important source of supply, also may be disregarded because of the small volume produced and the difficulty of meeting the quality requirements of the New York market in a warm climate without ice. That leaves but two districts of importance in which the production of milk is much in excess of the local requirements. The first of these is northeastern Ohio, but even here the cities of Cleveland, Pittsburgh, Youngstown, Akron, Canton, and Erie require most of the milk *in the winter*. The surplus production occurs largely in the spring and summer when there is already too much milk in the New York milk shed. The second region is southeastern Michigan, outside the Detroit and Toledo dairy districts. Although this is also a summer dairying region, there is some winter milk available. The cost of getting it to New York, however, would be about 60 cents per can above the average New York rate.

Without doubt any shortage in the milk supply could be *temporarily* met by shipments from a number of points in the region east of Illinois *if the dairies could meet the high standards set by the New York Department of Health.* The Chicago dairymen who were barred from their market by the passage of the T. B. ordinance in that city might be willing to see their milk come east. Similar milk might also be found about Detroit if the T. B. ordinance reported for that city is enforced. It is highly unlikely, however, that milk rejected as unfit for those two cities would be accepted by New York with its high standards.

There is, of course, some milk in the territory between the New York milk shed and the heavy producing region of Wisconsin that can be made to meet the requirements and that can be shipped at an additional cost of from 35 to 70 cents per hundred pounds. The amount is relatively small, however, and the relief afforded would be brief. If all the milk now made into cheese or condensed and evaporated milk in the whole state of Ohio were suddenly made suitable for the New York market, the present annual increase in demand of 5,000 cans daily would absorb the entire amount available in November in less than two years. On the same basis, the cheese, condensed and evaporated milk available in Michigan during the same month would last less than three years.

What is needed is a long-time plan which will assure New York a constant supply of the high quality milk to which it is accustomed. Two things are necessary to accomplish this:

1. Stimulation of dairying in the present milk shed.
2. Evening up the seasonal production of milk.

Both remedies necessitate the payment of higher prices to the producers of milk. For the last few years, prices to New York producers have been so low that the production of milk actually decreased 2 per cent in the five-year period, 1919 to 1924, while production in the other states show increases of from 4 to 43 per cent (Table 1). The winter prices, in particular, should advance to a point where dairymen can afford to produce the higher cost winter milk. If this is done there will be sufficient milk in the present New York territory to supply the growing demand for many years.

It is not a question of forcing the consumer to pay more in order to maintain the present limits of the milk shed. It is merely a choice of methods in supplying the increasing demand. More milk can only be obtained at a higher cost. The additional price may be paid in the form

TABLE 1.—CHANGES IN THE PRODUCTION OF MILK FROM 1919 to 1924*

State	Increase	Decrease
	per cent	*per cent*
Vermont	5	—
Massachusetts	13	—
Connecticut	20	—
New York	—	2
Pennslyvania	6	—
New Jersey	8	—
Delaware	15	—
Maryland	26	—
West Virginia	4	—
Virginia	15	—
Ohio	7	—
Kentucky	13	—
Indiana	13	—
Illinois	17	—
Michigan	11	—
Minnesota	40	—
Wisconsin	23	—
Iowa	43	—
Missouri	20	—

*1925 Census of Agriculture.

of freight and the new supply will come from farms which have not been accustomed to meeting the exacting requirements of the New York market, or it may be paid to the present producers, and the supply will come from farms that have produced clean milk for years. In either case, the price paid by the consumer will be the same. If the latter policy is followed, the nearness of the supply will make inspection easier and shorten the time the milk is on the road. If the former policy is followed, inspection will be more difficult and the milk will be a longer time on the road. The problem resolves itself into a question of quality. *Will the additional cost go to the railroads with a probable lowering of quality, or will it go to the present producers with the high quality maintained?*

H. A. Ross.

FARM TAXES IN NEW YORK

The index number of farm taxes levied in New York rose from 220 in 1924 to 231 in 1925. Most of these taxes were paid in 1926. The index is on a pre-war base, with 1910-1914 as 100.

TABLE 1.—INDEX NUMBERS OF FARM TAXES IN NEW YORK STATE. 1910-1914 = 100

Year	County taxes	Township Taxes	School Taxes	All farm Taxes
1910	93	78	89	82
1911	97	102	90	98
1912	98	99	99	101
1913	104	103	108	105
1914	108	119	115	113
1915	104	118	113	122
1916	116	132	120	123
1917	122	124	176	143
1918	124	135	166	146
1919	156	139	206	166
1920	183	170	205	198
1921	207	164	199	191
1922	209	179	196	197
1923	235	197	205	219
1924	225	202	219	220
1925	225	220	227	231

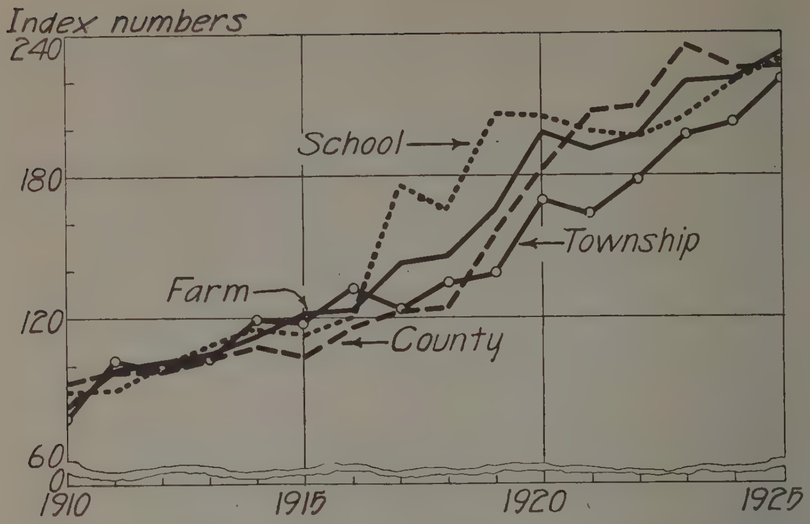

FIGURE 1.—INDEX NUMBERS OF FARM, COUNTY, TOWNSHIP, AND SCHOOL TAXES IN NEW YORK STATE, 1910-25

In 1925, the index number of all farm taxes was higher than the index number of county, township, or school taxes.

Increases in township, school and state taxes paid by farmers explain the upward movement of the index number of farm taxes. The index of township taxes moved from 202 in 1924 to 220 in 1925. The school tax index stood at 219 in 1924 and rose to 227 in 1925. The index of state taxes was 530 in 1924 and 541 in 1925. The index number of county taxes was the same for both years; it was 225. All these indexes are on 1910-1914 bases.

Increases in index numbers of the local taxes, township and school, were far more important causes of the rise in the index number of farm taxes than was the increase in the index number of state taxes. In 1925, township taxes were 46 per cent of the farmers' tax bill; school taxes were 27 per cent and state taxes only 5 per cent. Had state taxes remained the same as in 1924, the farm index number, carried to two decimal places would have been 230.42 in 1925. It was 230.79. If school taxes had remained the same, the farm tax index number would have been 228. Had township taxes been stationary, it would have been 222.

The index number of farm taxes in 1925 was higher than ever before.

M. Slade Kendrick

SEASONAL CHANGES IN DELIVERIES OF MILK TO COUNTRY PLANTS IN NEW YORK STATE[1]

The 1270 country plants receiving milk from farmers in 1924 were classified in seven groups according to the utilization of the milk. Seasonal variations in deliveries of milk to plants of each type are shown in Table I.

TABLE I. SEASONAL VARIATION IN RECEIPTS OF MILK AT DIFFERENT TYPES OF COUNTRY PLANTS, 1924*

(Average daily receipts for the year = 100)

Month	Milk shipping stations	Condenseries	Local plants	Cheese factories	Butter factories	Cream shipping stations	Ice cream and candy plants	All plants
Jan.	83	66	85	42	57	62	57	65
Feb.	87	68	87	44	59	69	61	68
Mar.	99	86	94	60	71	93	81	83
Apr.	113	112	106	106	98	123	119	111
May	128	137	122	146	128	143	148	136
June	146	168	140	191	176	167	175	166
July	120	149	119	170	156	141	151	144
Aug.	96	117	102	140	128	109	120	116
Sept.	90	100	94	119	114	94	99	101
Oct.	86	82	89	91	93	82	79	86
Nov.	77	62	81	54	65	62	58	66
Dec.	75	53	81	37	55	55	52	58
Average	100	100	100	100	100	100	100	100

* *Milk Shipping Stations* and *Cream Shipping Stations* shipped most of their supply as milk or cream to the New York market.

Condenseries were those plants chiefly engaged in the manufacture of condensed, evaporated or dried milk products. Many of the condenseries shipped fluid milk or cream to New York during the season of shortage.

Cheese and Butter Factories were almost exclusively engaged in the manufacture of those products.

Ice Cream and Candy Factories included those plants whose chief products were candy, ice cream stock, or milk products shipped mainly for use in making ice cream in city plants.

Local Plants included those which disposed of their products chiefly in local markets or shipped milk and cream to New England cities.

Milk receipts at the plants of each type reached a peak in June and the lowest point in December. In general, the receipts were above the average for the year from April to September and below the average for the balance of the year. The receipts at shipping stations and local plants showed less seasonal variation than receipts at manufacturing plants. In the month of June, receipts were about twice as large as in the month of December in the case of milk shipping stations and local plants; about three times as large in the case of cream shipping stations, condenseries, butter factories and ice cream plants; and five times as large in the case of cheese factories.

Differences in the seasonal variations of milk receipts of the various types of plants are due largely to differences in location. Most of the manufacturing plants are located in the northern and western sections of the state and summer dairies largely predominate in those areas. The shipping stations to a large extent are located in the eastern and central sections of the state. In these areas winter dairies predominate. Seasonal variations in milk receipts were more marked at all types of plants in the summer dairying regions than in the regions where winter dairying predominated. Only one-fourth of the milk shipping stations are located more than 300 miles from New York while nearly three-fourths of the condenseries are beyond that zone.

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[1] The data in this article were compiled from records of the New York State Department of Agriculture and Markets concerning receipts and utilization of milk at country plants in New York State for the year 1924.

The figures in Table 1 relate only to receipts of milk directly from patrons. During the months of heaviest production large quantities of milk were transferred from shipping stations and local plants to condenseries, ice cream plants, and large cheese factories for manufacture. Monthly receipts of milk from patrons and from other plants at eight large condenseries are shown in Table 2.

TABLE 2. SEASONAL RECEIPTS OF MILK FROM PATRONS AND FROM OTHER PLANTS AT EIGHT NEW YORK CONDENSERIES, 1924

Month	Pounds of milk received (000 omitted)			Per cent of total supply received [illegible]h month
	From patrons	From other plants	Total	
January	5,834	365	6,199	3.3
February	5,707	2,269	7,976	4.3
March	7,729	10,540	18,269	9.8
April	10,142	16,133	26,275	14.1
May	13,409	20,129	33,538	17.9
June	15,578	17,735	33,313	17.8
July	14,145	5,811	19,956	10.7
August	11,305	463	11,768	6.3
September	9,538	297	9,835	5.3
October	8,230	——	8,230	4.4
November	6,058	——	6,058	3.2
December	5,381	111	5,492	2.9
Totals	113,255	73,853	187,108	100.0

During the five months from March to July inclusive, these condenseries handled over 131 million pounds of milk of which over 70 million pounds, or about 53 per cent, was from other plants. For the year as a whole, 73,853,000 pounds of milk were transferred to those condenseries from 57 other plants. This was nearly 40 per cent of their total receipts.

The average daily receipts of milk at the different types of plants, and other data, for the months of June and December are given in Table 3.

TABLE 3. AVERAGE DAILY RECEIPTS OF MILK AT DIFFERENT TYPES OF COUNTRY PLANTS, AND OTHER DATA FOR JUNE AND DECEMBER, 1924*

Type of plant	Number of plants	Average number of patrons		40-quart cans of milk delivered daily per plant		40-quart cans of milk delivered daily per patron	
		June	Dec.	June	Dec.	June	Dec.
Milk shipping stations	474	63	59	234	123	3.7	2.1
Cream shipping stations	56	70	61	268	93	3.8	1.5
Condenseries	59	200	178	671	216	3.4	1.2
Cheese factories	395	31	41	102	41	3.3	1.0
Butter factories	70	152	110	256	83	1.7	.75
Ice cream and candy plants	13	150	113	502	148	3.4	1.3
Local plants	203	49	49	146	85	3.0	1.7
All plants	1270	64	64	204	102	3.3	1.6

* Relatively little cream was delivered by the farmers except at the butter factories. Cream receipts were converted to the approximate whole milk equivalent and included with the milk receipts. Each pound of cream was considered the equivalent of 8 pounds of milk.

Practically all of the plants except cheese factories operated throughout the year. In December, only 185 of the 395 cheese factories were operating. Except in the case of cheese factories and local plants, the average number of patrons was somewhat less in December than in June, and in all cases the average quantity of milk delivered by one patron was less.

The larger average number of patrons at cheese factories in December indicates that in general the larger factories continued operations throughout the year, while the smaller factories were closed during the winter.

In June 1924, the milk stations had an average of 63 patrons and the cream shipping stations 70 patrons, each delivering nearly 4 cans of milk a day. The condenseries received milk from an average of 200 farmers. The average farmer delivered about 3½ cans of milk a day. The patrons at butter factories delivered on the average less than 2 cans of milk (including cream) a day in June, and less than 1 can a day in December.

With the expansion of the milk sheds of some of the larger markets, has come the development of the transportation of milk in tank cars. These cars have a capacity of 6000 gallons or 51000 pounds of milk. The use of tank cars for milk is still in the experimental stage in the New York territory. One company is using tank cars for shipping milk from two country plants to New York and in making inter-plant shipments. Twice as much milk can be shipped in a tank car as in a car of forty-quart cans. However, the same freight rate applies for milk shipped in either type of car. Lower rate will probably be quoted on tank car shipments. There is little to be gained at present by the use of the tank car except possibly improved quality and a saving in icing the car. Nearly half of the country plants in the state ship at least a part of their milk supply to the New York market at some season in the year as fluid milk or cream. In Table 4 are shown the number of country plants which receive enough milk from farmers to ship one or more tank carloads at different seasons.

TABLE 4. NUMBER OF COUNTRY PLANTS RECEIVING FROM PATRONS A SUFFICIENT VOLUME OF MILK TO SHIP ONE OR MORE TANK CARLOADS DAILY

Type of	1 carload				2 or more carloads			
plant	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Shipping stations	3	21	5	1		2		
Condenseries	11	32	17	1	1	13		

In the month of June there were 21 shipping stations and 32 condenseries which could fill one tank car daily while 2 shipping stations and 13 condenseries could fill two or more tank cars daily. In December only one shipping station and one condensery received enough milk from farmers to fill one tank car daily and none of the plants could ship more than one car from their present milk supply.

Although there are so few plants in the state at present where tank cars can be loaded to capacity, it is possible that if the experiment should prove successful a company owning two or more nearby plants might combine shipments either by trucking the milk to one plant, or by partially filling the car at two or more stops.

C. W. Gilbert

FLUCTUATIONS IN THE PRICES OF COTTON TEXTILES

Most of the data available for study of fluctuations in prices are wholesale prices, which are neither producers prices nor consumers prices. The United States farm price of cotton measures the producers price and the retail prices of cotton goods represent consumers prices. Unfortunately, few retail prices of cotton clothing are available. The retail prices of clothing reported by the United States Bureau of Labor Statistics are assumed to represent the major movements in the retail prices of cotton goods. From December 1914 to December 1919, the rapidly rising prices were accompanied by lagging wages and retail clothing rose 167 per cent; wholesale cotton goods, 318 per cent; and the farm price of cotton, 423, per cent. Conversely, from June 1920 to May 1921, prices fell rapidly and wages declined only slightly, and the retail price of clothing declined 23 per cent; Killoughs price index of wholesale cotton cloth, 62 per cent; and the United States farm price of cotton, 74 per cent. From September 1922 to December 1923, retail prices advanced 3 per cent; wholesale prices, 22 per cent; and the price of cotton, 47 per cent. From December 1923 to June 1926, retail prices declined 5 per cent; wholesale cloth, 31 per cent; and cotton, 50 per cent.

The retail price usually is adjusted to dispose of the supply on the shelves of retailers. The farm price of raw cotton is the retail price of clothing less all the charges for manufacturing, transporting and distributing the products. It follows that, when prices at retail rise or fall, farm prices will move much more violently, because wages do not change in proportion.

TABLE 1.—YEARLY INDEX NUMBERS OF THE RETAIL PRICES OF CLOTHING, UNITED STATES BUREAU OF LABOR STATISTICS, KILLOUGH'S WHOLESALE PRICE INDEX OF COTTON CLOTH, AND THE UNITED STATES FARM PRICE OF COTTON.

Year	Retail clothing index United States Bureau Labor Statistics (1913 = 100)	Killough's* wholesale price index of cotton cloth 1911-13 = 100)	United States farm price of cotton (August 1909 to July 1914 = 100)
1914	101	94	85
1915	105	93	72
1916	120	123	109
1917	149	184	173
1918	205	284	238
1919	269	270	239
1920	259	336	259
1921	184	160	100
1922	172	178	152
1923	176	206	215
1924	171	200	216
1925	169	185	179
1926	167	157 (Jan. to Sept. incl.)	122

*The index of wholesale prices of cotton cloth was prepared by Professor Killough of Brown University.

A small advance in retail prices produces a greater advance in wholesale prices of cotton goods and an even greater advance in the farm price of cotton. Similarly, a small decline in retail prices produces a greater decline in wholesale prices and an even greater decline in the farm price of cotton.

If the crop is short, prices for cotton rise very high because each factor attempts to handle his usual portion of the product. During periods of cotton shortage and slowly rising retail prices, the manufacturer bids up the price of raw materials out of proportion to the advance in retail prices. When the supply of cotton is very large, retail prices of cotton goods drop somewhat, but not sufficiently to stimulate a proportionate increase in consumption. Therefore, the manufacturer pays a very low price for raw material which is out of proportion to retail prices.

The higher the cost of distributing and manufacturing relative to retail prices, the greater the fluctuations in wholesale prices of cotton goods and the farm price of cotton, because retail prices are relatively inflexible and it is difficult to raise retail prices to curtail consumption. Conversely, it is difficult to reduce retail prices sufficiently to stimulate consumption. Therefore, prices for manufactured goods, raw materials, and the farm prices of cotton fluctuate violently.

High costs of manufacturing, changing styles, inefficient merchandising, inroads of substitute fibres, lack of trade information, intersectional competition, high wages, and the like, are probably important factors causing unrest in the various sections of the textile industry. However, the discrepancy between prices of finished goods and the cost of raw material is probably one of the important factors contributing to the severe depression in the textile industry during the last four years.

HELEN CANON and E. GRAUE

PRICES OF GARDEN SEEDS[1]

Index numbers of the prices of 40 garden seeds are given in Table I and Figure 1. By cost prices are meant prices paid by seedsmen for seed bought. Wholesale prices are prices at which seedsmen sell at wholesale.

In 1917, cost prices were 117 per cent of the 1915 level, wholesale prices 134, and retail prices, 121. From 1915 to 1918, cost prices advanced less than did wholesale or retail prices. Wholesale prices advanced much faster than the cost or retail prices. Until 1918, the advance had been slow, but then garden seeds took a large jump. Cost prices advanced 141 points; wholesale prices, 143 points and retail prices, 99 points. The year 1919 shows still another striking change. In that year, cost prices decreased 22 points, wholesale prices, 26, and retail 15 points. The sharp advance in 1918 with the subsequent decline in 1919 was due to the fact that garden seeds were in great demand during the latter part of the World War, for "Home Gardens." Every back yard and vacant lot was dug up and planted in vegetables. After the Armistice, November 1918, the cultivation of these gardens ceased, and the prices of garden seeds fell.

Garden seed prices continued to fall during 1919 and 1920, despite the fact that wholesale prices of all commodities rose. The precipitous decline which the general price level took in the summer of 1920 was not reflected in garden seed prices, because they had already declined.

TABLE I.—INDEX NUMBERS OF THE PRICES OF 40 GARDEN SEEDS* 1915-1926.
1915 = 100

Year	Cost Prices	Wholesale Prices	Retail Prices
1915	100	100	100
1916	104	109	107
1917	117	134	121
1918	258	277	220
1919	236	251	205
1920	213	175	154
1921	182	163	160
1922	154	147	137
1923	149	145	142
1924	153	154	145
1925	154	170	163
1926	157	156	157

*Dwarf beans, pole beans, dwarf lima beans, pole lima beans, table beets, stock beets, cabbage, carrots, cauliflower, celery, collards, extra early corn, sweet corn, popcorn, cucumber, egg plant, endive, kale, kohl rabi, leek, lettuce, musk melon, watermelon, mustard, okra, onion, parsley parsnip, smooth peas, wrinkled peas, pepper, pumpkin, radish, rhubarb, salsify, spinach, squash, tobacco, tomato, turnips and rutabaga.

[1] The prices on which this study was based, were furnished through the courtesy of T. W. Wood & Sons, Seedmen, Richmond, Virginia. Acknowledgment is made to Mr. T. W. Whittitt, who supervised the collection of data.

From 1923 to 1926, prices of garden seeds have slowly risen; the three prices moving more or less together. The same relation between the three prices is shown here as was shown in the previous movement. Wholesale prices fluctuate most. Cost prices move slowly, and lag behind wholesale and retail prices. Cost prices are set by contracts, usually two years in advance. The 1917 cost prices were fixed by contract in 1915, and no big advance took place. Wholesale prices were not subject to contract, and fluctuated with prevailing economic conditions. Retail prices are published in garden seed catalogues from 3 to 6 months prior to spring planting. Therefore, retail prices are in closer adjustment to economic conditions than cost prices, but are not so closely adjusted as wholesale prices.

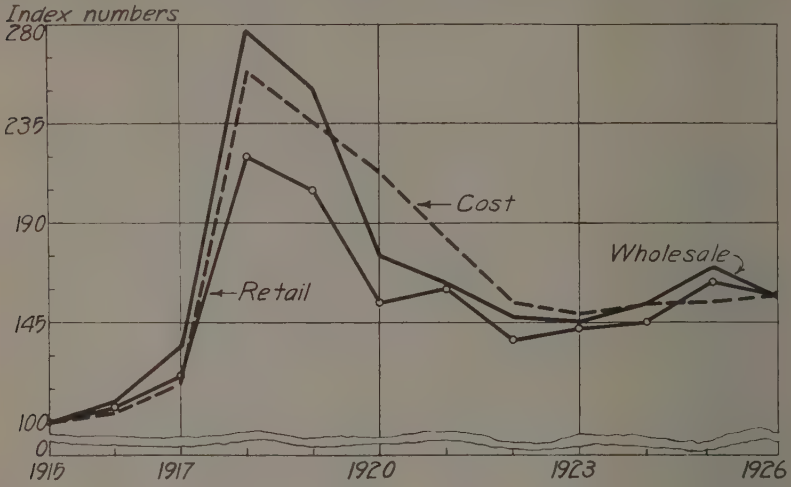

FIGURE 1.—COST, WHOLESALE AND RETAIL PRICES OF 40 GARDEN SEEDS, 1915-1926. 1915 = 100.

Cost prices of garden seeds which are usually contracted for 2 years in advance, fluctuate less rapidly than wholesale or retail prices. Retail prices fluctuate less rapidly than wholesale prices. These principles hold during inflation and deflation.

During the decline of garden seed prices, the same principles hold. Wholesale prices drop rapidly, while cost prices lag.

William P. Wood, Jr.

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 45 JUNE, 1927

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm Prices		United States Prices of Food		Cost of living United States[4]	Weekly earnings N. Y. factory workers[5]	Prices of 70 indust'l stocks[6]	Interest rates 4-6 mos. comm'l. paper[7]
		New York[2]	United States[2]	Farm[3]	Retail[3]				
1913	102	97	99	100	103	100		96	115
1914	100	103	101	105	106	103	101	96	99
1915	103	100	101	106	107	105	104	119	71
1916	129	116	119	117	117	118	116	152	71
1917	180	170	180	181	156	142	132	140	98
1918	198	186	206	200	180	174	164	130	121
1919	210	206	215	213	194	199	190	160	112
1920	230	217	214	207	207	200	227	144	153
1921	150	144	119	130	163	174	207	118	135
1922	152	134	124	121	150	170	202	146	92
1923	157	142	137	124	154	173	220	155	102
1924	152	128	140	126	153	173	223	166	81
1925	162	147	154	152	169	178	228	221	83
1926	154	156	142	154	174	176	234	247	88
Oct., 1925	160	147	151	149	171		230	243	78
Nov.	161	165	153	159	173		231	248	84
Dec.	159	159	152	159	171	178	234	250	87
Jan., 1926	159	158	150	157	174		234	252	99
Feb.	158	156	150	156	175		230	255	100
Mar.	154	158	145	154	177		234	239	97
Apr.	154	171	146	158	180		233	232	96
May	155	176	145	161	179		231	233	93
June	155	176	146	161	177	175	234	242	87
July	154	163	143	156	172		232	249	81
Aug.	152	150	140	147	169		233	256	79
Sept.	154	148	140	148	171		236	254	78
Oct.	153	140	134	148	171		237	246	81
Nov.	151	150	135	151	170		235	250	85
Dec.	150	145	133	150	169	176	238	256	87
Jan., 1927	150	142	130	145	171		237	252	96
Feb.	149	142	132	145	171		237	258	95
Mar.	148	142	131	142	172		240	261	90
Apr.	147	147	130	143	172		235	265	93
May			132					273	

(For footnotes see next page.)

BUSINESS CONDITIONS

City business is still active, but considerably less so than last year. Earnings of factory workers in New York State, in April, were still higher than last year, but the index number has declined somewhat since March. Reports concerning labor on farms indicate that, altho wages have not declined, men are now available for farm work.

Severe financial crises have occurred in Japan and in Germany.

The multitude of city residences built in the United States in the last few years are becoming less readily salable.

It begins to seem conceivable that a time may come when farm buildings will be given attention. The seven years of neglect have left the buildings in a serious condition on many farms.

TABLE 1.—INDEX NUMBERS OF PRICES OF FARM LAND AND OF INDUSTRIAL STOCKS, 1910-14 = 100

Year	Plow lands	Industrial stocks
1913	103	96
1914	109	96
1915	111	119
1916	123	152
1917	136	140
1918	153	130
1919	167	160
1920	202	144
1921	184	118
1922	156	146
1923	142	155
1924	141	166
1925	138	221
1926	137	247
1927, May		273

Prices of industrial stocks are still booming. If a man had invested $100 in average industrial stocks before the war, he would now be able to sell for $273. If he had invested in farm land, he would have great difficulty in selling. If he were able to sell at prices as quoted by the United States Department of Agriculture, he would get one third above pre-war prices. In most parts of the country it is impossible to sell at any such figure. As is usually the case with prices on farm land, the quotations lag far behind the facts.

The statement is often made that an unwarranted boom in farm land occurred in 1920. It will be noted that the peak of land prices was twice pre-war prices, whereas industrial stocks in May 1927 are two and two-thirds times pre-war prices. City real estate is also very high. If there were an unwarranted rise in farm land in 1920, what can be said of the present situation in cities?

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923 Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February 1927.

[4] Reported by the United States Bureau of Labor Statistics, 1913 = 100. Monthly Labor Review Vol. XXIV, No. 2, p. 168, February 1927.

[5] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[6] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14, base by multiplying by 2.05.

[7] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

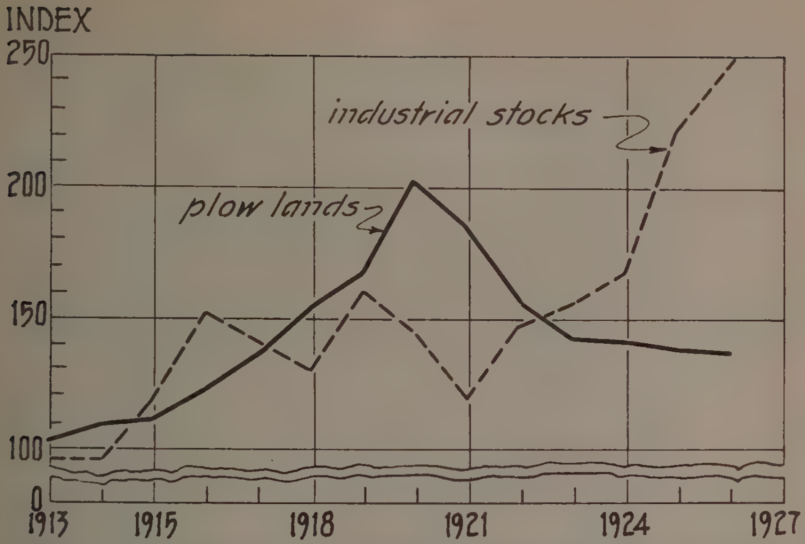

FIGURE 1.—INDEX NUMBERS OF THE PRICE OF FARM LAND AND OF INDUSTRIAL STOCKS.

Farm lands are now one third above pre-war prices, whereas industrial stocks are 173 per cent above pre-war. For 5 years the cities have enjoyed unprecedented prosperity. Cheap food was an important factor in lowering land prices and raising stock prices.

Prices of Farm Products

Prices of most farm products declined strikingly in the past year. The index of prices paid to farmers for food products dropped from 161 to 142. The index for all farm prices dropped even more.

Apparently the lowest point has been past, at least for the present. The shortage of cattle is beginning to have an effect on the price of beef, butter and milk. Unfavorable weather has increased prices of all grains. From April 18th to May 31st the Chicago prices of May corn rose from 70 to 98 cents per bushel. Wheat rose about 20 cents.

Eggs are very cheap. On June 6, nearby white eggs were selling in New York at 14 per cent above pre-war prices. When the increased express charges are deducted it leaves the farmer in Central New York 10 per cent above pre-war prices. The cost of a poultry ration May 31st was 42 per cent above pre-war prices and was rising.

Hogs have fallen in price very rapidly, and will doubtless fall further. For the first time in several years, farmers are receiving prices for beef cattle that are no worse than the prices of hogs.

With the exception of hogs and poultry, the prices for the major food products have improved materially, altho they are far below retail prices of things that farmers buy.

Feed

For about a year, FARM ECONOMICS has repeatedly called attention to the low prices of feed. During the last of May, a rise in feed prices occurred. This was partly because prices were too low, partly because of increased demand for feeding cattle, and partly because of the wet weather. The rise is not fully shown in the May figures as the rise took place the latter part of May.

G. F. WARREN and F. A. PEARSON

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.4
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.5
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	120	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
May	67.1	39.5	142.1	55.1	85.0	205.4	3.31	16.0	13.12	......	244.8	192.2
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	......	126.4	110.6
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	......	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	......	137.0	94.0
1927												
January	64.3	42.6	122.2	58.0	83.6	193.0	2.99	10.6	13.38	......	139.1	97.8
February	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	......	134.1	109.0
March	65.2	43.4	120.9	62.2	86.0	195.1	2.76	12.5	13.48	......	127.0	112.3
April	65.6	43.2	117.2	64.1	85.1	196.1	2.86	12.3	13.26	......	126.6	112.8
May	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	......	146.0	118.9

Index Numbers (corresponding months, 1910-14=100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	128
1923	124	104	112	91	130	140	177	215	103	166	121	110
1924	141	119	126	110	141	129	158	216	111	151	125	159
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	......	267	176
1926												
May	104	96	158	85	116	117	146	127	107	......	352	197
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165
October	106	100	139	90	119	118	127	97	113	......	183	130
November	104	103	140	93	117	121	133	91	114	......	236	116
December	110	106	143	93	117	127	134	82	109	......	226	130
1927												
January	110	111	140	95	118	119	133	86	114	......	222	125
February	112	110	138	96	119	115	132	94	114	......	204	131
March	108	108	136	99	122	112	127	101	112	......	190	128
April	106	107	132	100	118	113	131	99	110	......	186	121
May	113	110	137	105	121	117	130	110	108	......	210	122

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
	bu.	head	lb.	doz.	lb.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
May	148	84	23.7	25.2	40.1	66.63	6.57	8.92	7.78	11.78	32.0	11.97
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7.56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97
1927												
January	97	73	20.1	36.9	44.0	66.77	6.45	9.75	6.87	10.65	30.9	10.97
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19
March	100	79	21.3	20.8	43.5	70.18	6.82	10.10	7.41	11.55	31.3	10.89
April	104	80	21.8	20.3	43.4	71.98	7.13	9.90	7.40	11.97	30.4	10.41
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	101
1915	77	93	103	102	102	118	113	111	115	116	126	93
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
May	121	58	201	151	162	135	119	135	157	182	180	166
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	159
September	125	56	180	163	166	134	121	143	163	201	188	156
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163
1927												
January	100	53	188	125	155	141	128	144	149	184	167	156
February	96	54	194	110	161	143	129	149	157	182	168	157
March	92	55	190	97	168	144	129	146	155	186	167	147
April	91	55	190	119	171	146	130	146	146	185	169	137
May	93	56	184	119	170	147	130	142	155	185	169	130

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1926										
May	89	53	158	76	89	3.60	14.50	290	124	133
June	88	50	157	77	94	3.60	15.00	225	135	133
July	88	52	149	72	97	3.48	15.30	170	140	129
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115
1927										
January	86	50	131	71	85	3.24	14.00	150	90	115
February	89	51	132	73	86	3.36	14.40	135	87	123
March	87	52	132	76	88	3.24	14.00	120	95	120
April	90	51	126	78	87	3.18	13.50	120	90	125
May	93	54	130	80	91	3.30	13.50	146	100	124

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
May	122	106	158	96	119	153	92	403	110	73
June	117	98	154	96	122	154	92	321	138	74
July	116	102	148	92	115	144	96	246	159	74
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65
1927										
January	119	111	132	95	120	138	92	234	111	66
February	125	109	132	97	119	144	95	196	100	70
March	123	111	132	99	124	140	90	176	106	68
April	127	104	126	101	119	139	88	174	87	69
May	127	108	130	101	121	140	86	203	88	70

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.99
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.34
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
May	28.4	29	35.8	46	2.19	92.00	10.30	5.80	6.40	12.30	35	12.00
June	28.1	30	36.9	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	28.0	32	40.0	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61	59.7	52	2.85	95.00	12.00	5.60	5.60	11.80	37	12.10
1927												
January	25.7	48	46.0	51	2.72	92.00	12.40	5.60	5.80	11.50	35	11.60
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10
March	27.0	27	31.3	51	2.65	100.00	12.20	6.00	6.20	12.20	33	11.60
April	27.7	26	30.9	51	2.49	106.00	11.80	6.00	6.30	12.50	33	11.50
May	27.3	26	29.6	50		109.00	10.90	6.60	6.20	12.90	33	10.70

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	185
1918	184	182	182	161	204	167	180	162	233	236	314	213
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1926												
May	191	153	157	159	184	165	140	103	148	188	175	158
June	185	150	151	164	193	162	146	113	134	202	170	170
July	184	145	147	167	175	165	141	103	139	187	167	168
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149	121	153	149	168	137	103	129	192	176	165
1927												
January	189	126	116	150	143	171	147	106	139	179	159	156
February	186	125	106	155	149	179	152	111	133	181	164	161
March	190	96	121	165	158	179	146	115	145	189	157	149
April	187	124	137	170	171	188	152	112	138	183	157	147
May	183	137	130	172	......	196	148	117	144	197	165	141

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Standard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.37	....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	.43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
May	34.54	37.65	30.56	36.26	31.38	29.75	33.69	51.03	41.50	63.80	36.30	40.99
June	34.59	38.65	30.45	36.60	29.04	29.14	31.94	49.72	41.60	63.80	36.12	40.55
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	73.80	37.53	42.58
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96
1927												
January	37.94	37.25	35.30	41.79	34.30	35 70	35.60	50.84	38.70	75.80	38.12	41.82
February	37.85	38.65	34.63	40.68	35.06	36.75	36.00	51.43	42.31	79.80	38.91	42.52
March	36.94	38.65	33.00	40.40	34.63	36.38	35.63	50.55	42.50	76.80	38.57	41.92
April	37.63	35.53	32.60	41.48	35.60	36.18	36.10	52.00	41.90	76.80	38.02	41.75
May	42.73	36.75	38.25	45.05	35.75	36.13	37.00	52.50	43.98	76.80	40.01	44.01

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Standard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
May	120	138	112	111	124	116	129	154	127	122	127	128
June	121	140	111	110	125	117	126	154	127	122	127	127
July	132	150	120	111	128	117	128	160	129	141	133	132
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133
1927												
January	138	123	127	135	132	137	132	147	118	146	129	134
February	138	126	125	128	133	140	133	148	132	153	131	135
March	138	132	124	127	132	140	131	152	133	147	133	134
April	135	127	124	129	138	140	136	155	129	147	132	132
May	149	134	140	138	142	141	141	159	134	147	140	138

THE DAIRY CYCLE

The purchasing power of beef cattle compared with the purchasing power of dairy cows is shown in Figure 1. The beef cattle cycle is somewhat smoother than the dairy cow cycle but it is the same length. The dairy cow cycle for New York State is practically the same as the one for the United States.

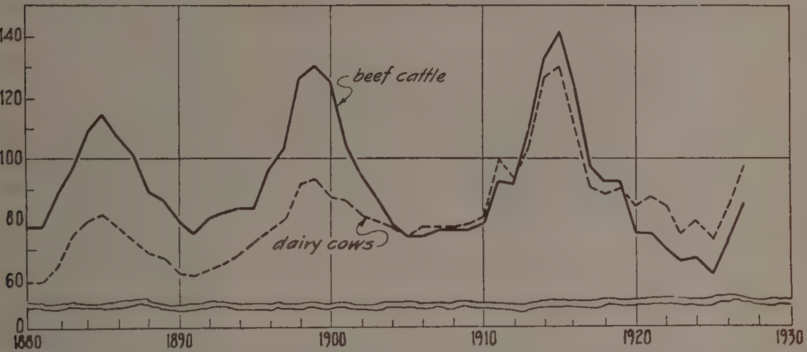

FIGURE 1.—PURCHASING POWER OF BEEF CATTLE AND DAIRY COWS IN THE UNITED STATES, 1880-1927

The major centers of high and low prices of dairy cows and beef cattle occur at the same time. The periods of high prices are about 16 years apart. The last high period was in 1915. If the cycle is of average length, dairy cows and beef cattle may be expected to rise in purchasing power until about 1931.

The purchasing power of both beef cattle and dairy cows have been rising. The center of the last low priced period for both beef and dairy cattle occurred about 1923. If previous experiences are repeated, the peak of prices for both dairy cows and beef cattle may be expected to occur about 1931, with a very precipitous decline thereafter. Increasing numbers of heifer calves will doubtless be raised in the next few years. The market for heifers will doubtless be very good until about 1931. The best time for raising calves is already past. Any farmer who plans to expand this portion of his business should do so at once if he is to obtain a profit. Altogether too many calves will be raised later.

The cycles for both dairy cows and beef cattle have a long flat bottom and a short peak. The period of waiting is long and tedious. The period of high prices is relatively short and feverish. Multitudes of farmers lose their savings by plunging in cattle before prices fall.

G. F. Warren and F. A. Pearson

RELATION OF MAY WEATHER CONDITIONS TO THE CORN CROP

Rainfall and temperature in May is of less importance than in the three succeeding months in determining the corn crop. In the six wettest Mays of the 36 year period from 1890-1925, the yield per acre in the corn-belt ranged from about normal to 25 per cent above normal. A wet May does not have the importance in determining the corn crop often attached to it. If rainfall and temperature conditions are favorable thru the three growing months, late planted corn will regain all, and if frost·holds off in the fall, it will regain more than its loss because of a delayed start. In the six wettest Mays from 1890-1925, the yield per acre (104 per cent of normal) was what would be expected from the precipitation for the three succeeding months (117 per cent of normal). May weather conditions constitute only one; ordinarily one of the less significant factors, to be considered in the corn production and price situation.

TABLE 2.—RELATION OF MAY RAINFALL TO YIELD OF CORN

	Year						Average
	1905	1903	1896	1908	1915	1892	
May rainfall in per cent of normal	133	133	149	166	183	207	162
May temperature in per cent of normal	100	103	111	101	96	93	101
June, July, August rainfall in per cent of normal	93	131	121	112	153	92	117
June, July, August temperature in per cent of normal	100	97	100	99	94	100	98
Growing season: Days	185	196	187	188	196	181	189
per cent of normal	98	104	99	100	104	96	100
Yield per acre in per cent of normal:							
United States	107	98	115	99	107	98	104
Six leading states	113	95	125	94	99	100	104
Total production in per cent of normal:							
United States	107	95	125	96	109	94	104
Six leading states	111	88	125	91	99	97	102
Dec. 1 farm price purchasing power in per cent of normal:							
United States	90	98	65	128	99	105	98

E. G. Misner

CORN-BELT TEMPERATURE IN JUNE, JULY AND AUGUST AND ITS RELATION TO CORN-BELT RAINFALL AND YIELD PER ACRE OF CORN

The mean temperature for June, July and August for the same corn-belt stations as given on page 493, Farm Economics, no. 35 for the 36 years, 1890-1925 inclusive, was found to range from 94 per cent in 1915 to 105 per cent of normal in 1901. In June the variation was from 93 per cent in 1903 to 106 per cent in 1911; in July from 93 in 1891 to 110 in 1901; and in August 91 in 1915 to 107 in 1918.

There were 5 years out of the 36 when all three months had a temperature of normal or above. These were 1894, 1901, 1911, 1913 and 1914. The average temperature in these five years was 103 per cent of normal. The rainfall in these same years averaged 72 per cent of normal and the yield per acre in the six leading states averaged 80 per cent of normal. Warm weather is conducive to the growth of corn. But low temperatures accompany abundant rainfall. Rainfall has more influence on yield than does temperature.

TABLE 1.—RELATION OF CORN-BELT TEMPERATURE TO PRECIPITATION AND YIELD PER ACRE OF CORN

	Temperature in per cent of normal	Yield per acre of corn per cent of trend		Precipitation in per cent of normal
		U. S.	6 leading states	
6 coldest seasons	96	101	102	130
6 next coldest seasons	98	105	104	104
6 seasons with about normal temperature	100	106	110	104
6 seasons with slightly above normal temperature	101	98	99	92
6 warm seasons	102	98	99	90
6 hot seasons	104	90	86	81

There were 7 years out of 36 when the temperature was below normal in all months of the season, the average being 97 per cent of normal. The rainfall averaged 124 per cent of normal in those years and the yield per acre 106 per cent of normal. Thus in the very coldest seasons in the cornbelt precipitation is so heavy that despite the coolness corn attains extraordinary growth and the yield per acre is above the average.

From Table 1, it may be seen that the highest yields of corn occur with a temperature 98 to 100 per cent of normal. They also occur with rainfall about 110 per cent of normal. The lowest yields result in very warm seasons because the rainfall is not sufficient, and the loss of water from the soil too great for the best development of corn.

E. G. Misner

WHO IS RESPONSIBLE FOR THE HIGH COST OF DISTRIBUTION?

Wages are nearly two and one half times as high as before the war. The farmer is selling food at 43 per cent above pre-war prices. When this same food reaches consumers it brings 72 per cent above pre-war retail prices.

For a product for which the farmer received fifty cents and which reatiled at $1.00 before the war, the present price relationships are shown in Table 1.

TABLE 1.—EFFECT OF DEFLATION ON DISTRIBUTING CHARGES

	Pre-war Prices	Present Prices	Present index numbers Pre-war = 100
Retail price	$1.00	$1.72	172
Amount paid farmers	0.50	0.72	143
Amount taken by distributing agencies	0.50	1.00*	200*

*If the retail index is 172 and the farm index 143 (see page 681), the distributing index must be 200 for a product which retailed at $1.00, before the war, and for which the farmer received 50 cents. If the farmer received only one-third of the retail price before the war, he would have received 33⅓ cents of the consumers dollar. His present index, 143, would give him 48 cents of the consumers $1.72. Distributing charges would, therefore, have changed from 66⅔ cents to $1.24 cents, or the index of distributing charges would be 186.

Distributing charges have about doubled. Considerable increase in efficiency has occurred or they would be worse than this. One often hears the statement made that the high distributing charges are due to the fact that city laborers insist on high wages. There is no more personal guilt involved in high wages than there is in the recent advance in the price of corn.

When financial inflation occurred during the Napoleonic Wars, wages lagged behind rising prices and were relatively low. When deflation occurred, wages again lagged behind prices for a long series of years. There are hundreds of illustrations of financial inflation and deflation. In every case of which the writers have found a record, wages have lagged. This is a fundamental price relationship independent of labor unions, trusts or governments. It is one of the multitude of price maladjustments brought about by a change in the value of money.

Formerly, the injustices to debtors and creditors resulting from inflation and deflation were considered to be the major maladjustments resulting from changes in the value of money. In a country where agriculture is so commercialized as it is in the United States, and where the farmer is located so far from the consumer (the average haul of fruits and vegetables is 1500 miles, page 706) the failure of distributing charges to decline when deflation occurs, is far more serious than is the failure of debts to be adjusted to commodity prices. The distributing machinery is now absorbing about twice as much money as was absorbed before the war. The supply of food is such that consumers are willing to take the product at 72 per cent above pre-war prices, but high handling charges leave the farmer only 43 per cent above pre-war prices. This is not a question of supply and demand. Supply and demand determine what the retail price shall be, namely, 72 per cent above pre-war prices when sold from stores and over 90 per cent above pre-war prices when sold at eating places. Financial deflation with its inevitable results determines how much of the retail price the farmer gets.

As the years go by, adjustment gradually will occur, in part by increased efficiency, in part by lowering wages (if prices continue to fall), but in major part by the growth of population and the drastic curtailment of agriculture which will result in a food shortage. These latter adjustments have gone a long ways in the past seven years.

In a simple society, each family produced about as much food as it needed for its own use. Few products were sold and equally few were purchased. A large crop was a blessing. Financial inflation or deflation had little significance, except as it affected debts. As agriculture has become specialized and more efficient, the farmer sells most of what he produces and must purchase many things in order to live and operate his farm. High production is no longer a blessing. The farmer gets less money for a large crop than for a small crop. Prices are the major consideration.

The problems resulting in specialized and commercialized agriculture located a long distance from the consumer are relatively new in the United States. They do not exist in Europe in any comparable degree, because in Europe farming is less efficient and less commercialized. Every new farm machine moves people to the cities and makes the problem more difficult.

A change in the value of the dollar, since it reacts on prices long before it reacts on handling charges, causes havoc in agriculture. Industrial concerns are able to adjust quickly, because they deal with mechanical rather than biological facts. American agriculture is so efficient that it cannot stand an unstable dollar. The results of deflation are more serious than is yet appreciated, but it is a waste of time to try to find the man who is personally to blame for the inevitable consequences of deflation.

G. F. Warren and F. A. Pearson

SOME FACTORS AFFECTING THE PURCHASING POWER OF GRAPES

The common explanation for the fluctuations in the price of all products is the law of supply and demand. Demand, as such, is generally an indeterminate factor from the standpoint of figures. On the other hand, some of the factors affecting supply can be fairly accurately measured.

The prices used represent the amount paid per ton for grapes (without containers) and were secured from reliable sources. Weather data was taken from the reports published by the Westfield Weather Bureau station. The prices for the period 1904 to 1926, with calculations of the purchasing power in terms of the wholesale price of all commodities, are given in Table 1.

A decided upward secular trend is apparent. Before the war, the prices paid to producers for grapes were advancing more rapidly than prices of most farm products.

As data on the production of grapes was not available, it was not possible to study directly the relation of production to price. Various weather factors were used as a measure of production. Three important weather factors influence the price of the grape crop, the date of the last killing frost in the spring, the July and August temperature the year before, and the rainfall in June, July and August of the previous summer (Table 1).

TABLE 1.—PRICES OF GRAPES AND RAINFALL, TEMPERATURE, AND DATE OF LAST KILLING FROST IN THE SPRING

Date	Grapes price per ton	Index number 1910-14 = 100	U.S.B.L. wholesale price index (October) 1910-14 = 100	Purchasing power of price of grapes 1910-14 = 100	Date of last killing frost in spring	Number of days from April 1st	July and August temperature (previous year) ±	June, July and August rainfall (previous year)
1904	$22	57	87	66	Apr. 22	22	138.0	15.7
1905	30	77	87	88	May 1	31	133.0	6.8
1906	40	103	92	112	May 8	38	137.2	17.4
1907	40	103	98	105	May 22	52	141.8	7.3
1908	33	85	93	91	May 3	33	133.8	8.4
1909	29	75	102	74	May 2	32	137.1	7.7
1910	43.50	112	99	113	May 12	42	134.8	9.5
1911	29	75	97	77	May 5	35	137.2	8.6
1912	35	90	103	87	Apr. 28	28	139.3	9.5
1913	52	134	103	130	May 10	40	135.1	9.3
1914	35	90	99	91	May 2	32	137.5	12.4
1915	38	98	104	94	Apr. 17	17	139.0	11.5
1916	56	144	138	104	Apr. 19	19	132.2	16.8
1917	60	154	186	83	May 8	38	144.0	8.5
1918	108	278	206	135	May 11	41	138.2	14.6
1919	96	247	215	115	Apr. 26	26	140.2	12.1
1920	128	329	215	153	May 15	45	138.8	10.4
1921	**		144		*	*	*	*
1922	58	149	157	95	*	*	*	*
1923	70	180	156	115	*	*	*	*
1924	67	172	155	111	*	*	*	*
1925	99	254	160	159	*	*	*	*
1926	27	69	153	45	*	*	*	*

*Weather station discontinued.

** Data not available.

± The data for temperature is the sum of the July temperature and August temperature

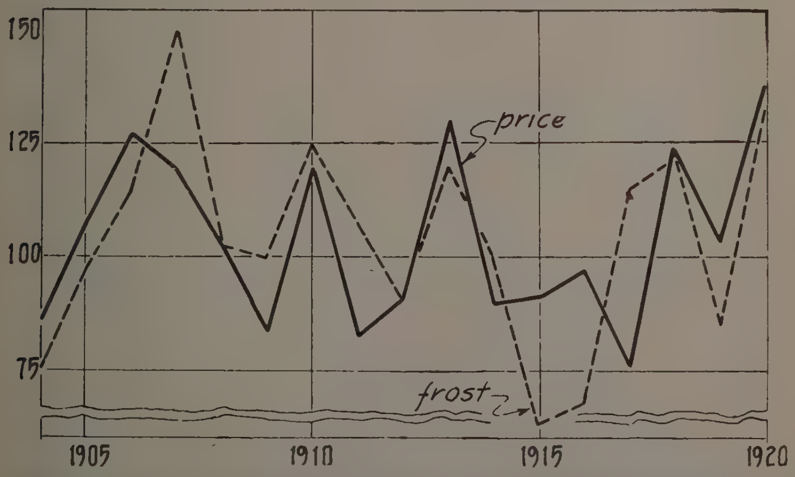

FIGURE 1.—PURCHASING POWER OF PRICE OF GRAPES AND DATE OF THE LAST KILLING FROST IN THE SPRING. (Days from April 1st) AT WESTFIELD, NEW YORK, 1904-1920.

A late spring frost which decidedly cuts grape production by reducing the set, normally results in high prices.

Of these factors, the most important is the date of the last killing frost in the Spring (Figure 1). A late spring frost cuts down the set of the grapes, and thereby reduces production.

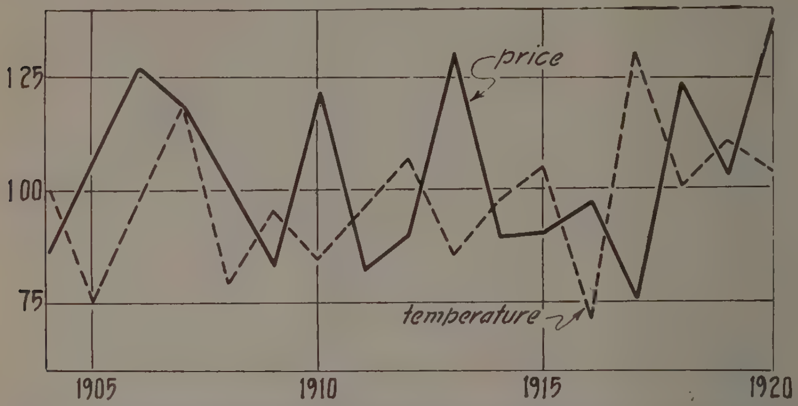

FIGURE 2.—PURCHASING POWER OF PRICE OF GRAPES AND THE JULY AND AUGUST TEMPERATURE THE PREVIOUS SUMMER AT WESTFIELD, NEW YORK, 1904-1920.
A high temperature favors food storage with a large crop and low prices the following year.

Since grapes are largely composed of water, it was thought that the summer rainfall and temperature would have an effect on the size of the crop that year. The effect of the July and August temperature on the crop, the same year, is negligible ($r = -0.09$). The precipitation in June, July and August of the same year is likewise unimportant. However, the temperature (Figure 2) and the rainfall (Figure 3) the previous summer do affect grape production. Probably this is brought about through conditioning the vine. A heavy precipitation makes for a growth of succulent vine with a consequent reduction in food storage. A high temperature, on the other hand, favors the storage of food in the vine. Both a high temperature and a low rainfall bring about earlier maturity of vine, with more food being stored and less winter injury likely to result.

The multiple correlation between the price of grapes (X_1), and the date of the last killing frost (X_2), the July and August temperature the previous

TABLE 2.—GROSS, PARTIAL, AND MULTIPLE CORRELATIONS BETWEEN PURCHASING POWER OF PRICE OF GRAPES, AND WEATHER FACTORS, 1904-1920.

X_1 = Purchasing Power of Price of Grapes; X_2 = Date of Last Killing Frost in Spring (Days from April 1st); X_3 = July and August temperature (previous year); X_4 = June, July and August rainfall (previous year).

Gross Correlations

$r_{12} = +0.593 \pm 0.106$
$r_{13} = -0.206 \pm 0.157$
$r_{14} = +0.129 \pm 0.161$
$r_{23} = +0.258 \pm 0.153$
$r_{24} = -0.377 \pm 0.140$
$r_{34} = -0.132 \pm 0.161$

Partial Correlations

$r_{12.3} = +0.684 \pm 0.087$
$r_{12.4} = +0.699 \pm 0.084$
$r_{13.2} = -0.462 \pm 0.129$
$r_{13.4} = -0.193 \pm 0.157$

$r_{12.34} = +0.777 \pm 0.065$
$r_{13.24} = -0.504 \pm 0.122$

$r_{14.2} = +0.473 \pm 0.127$
$r_{14.3} = +0.105 \pm 0.162$
$r_{23.4} = +0.227 \pm 0.155$
$r_{24.3} = -0.358 \pm 0.143$
$r_{34.2} = -0.038 \pm 0.163$
$r_{14.23} = +0.514 \pm 0.120$

Multiple Correlation

$R_{1.234} = 0.791 \pm 0.061$

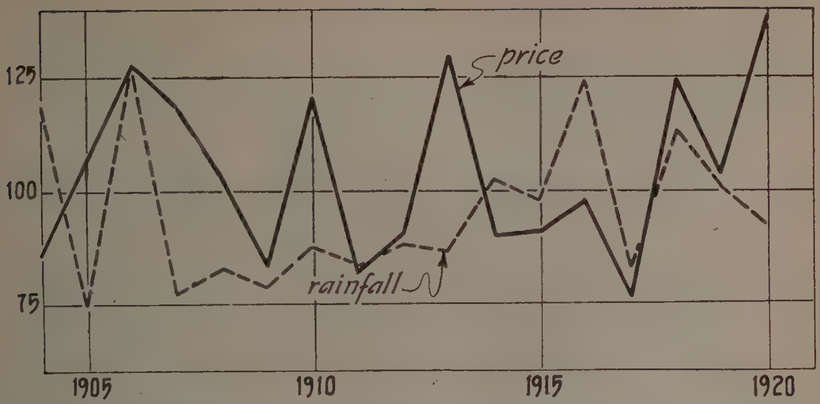

FIGURE 3.—PURCHASING POWER OF PRICE OF GRAPES AND THE JUNE, JULY AND AUGUST RAINFALL THE PREVIOUS SUMMER AT WESTFIELD, NEW YORK, 1904-1920.

A heavy precipitation during the summer stimulates succulent vine growth and retards food storage. This results in a shorter crop and higher prices the following year.

year (X_3), and the June, July and August rainfall the previous year (X_4):

$$R_{1.234} = 0.791 \pm 0.061$$

indicates that 63 per cent of the factors affecting grape prices have been measured. Of this amount, 49.8 per cent is due to the date of the last killing frost in the spring, 7.8 per cent to the July and August temperature the previous year, and 5.4 per cent to the June, July and August rainfall of the previous year.

The outlook for the year 1927 is for a shorter crop than could normally be expected. The summer of 1926 was both cold and wet and the past March was exceptionally warm, which based on past experience indicates a small crop.

H. J. Stover

FARM LAND TRANSFERS IN TOMPKINS COUNTY, NEW YORK

A study of the transfers of farm land in Tompkins County, New York, shows that the number of transfers and the amount of land changing hands declined from 1913 to 1916. The next four years show advances. The peak, which was reached in 1920, slightly exceeded the number of transfers in 1913. Since 1920, the number of transfers and acres of land transferred have declined. The number of transfers and acres transferred are given in Table 1 and shown in Figure 1.

Apparently the war checked the farm real estate business. The rapid rise in the price of New York State farm products from 1916 to 1920 was undoubtedly a big factor in farm real estate transfers.[1]

Since 1920, the index of the price of New York State farm products has been below that of wholesale prices. During this period there has been a decline in farm real estate transfers.

Table 1 also gives the average size of farm real estate transfers in Tompkins County, New York. The average transfer for the fourteen years is 55.7 acres. This is about 60 per cent of the average size of Tompkins County farms.

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[1] The index of the price of New York State farm products in 1916 was only 116; in 1920 it was 217.

TABLE 1. TRANSFERS OF FARM REAL ESTATE IN TOMPKINS COUNTY, NEW YORK

Year	Number	Acres	Average size
1913	337	19,832	58.8
1914	233	11,880	51.0
1915	224	10,991	49.1
1916	182	9,952	54.7
1917	244	14,210	58.2
1918	234	13,164	56.2
1919	321	18,671	58.2
1920	350	19,105	54.6
1921	204	11,328	55.5
1922	267	15,479	58.0
1923	199	8,851	44.5
1924	166	10,704	64.5
1925	187	9,592	51.3
1926	187	8,442	45.2

There is a decided seasonal variation in the farm real estate business. The month of April shows a peak about twice the average number of transfers and nearly three times the average acreage transferred. March is also a month of large transfers of land. The other months of the year show a fairly steady but slow movement. The seasonal changes in number of transfers and acres transferred are given in Table 2.

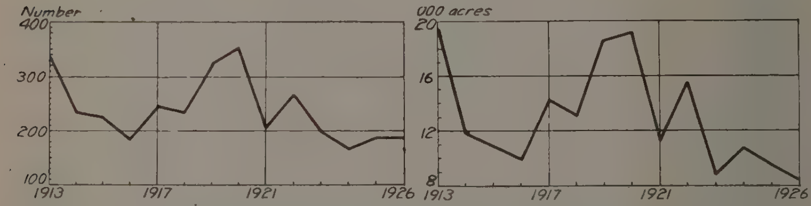

FIGURE 1.—ACRES OF FARM LAND AND NUMBER OF PARCELS OF FARM LAND TRANSFERRED IN TOMPKINS COUNTY, NEW YORK, 1913-1926.
The transfers of farm real estate in 1926 were about one-half of the transfers in 1913.

Apparently farm land sales follow the price of farm products grown thereon. In times of good prices more sales are made than at other times. Apparently there are more sales of farms made in March and April than any other time of the year. In other words, March and April are the best months of the year to sell land as more buyers are in the market.

TABLE 2. SEASONAL VARIATION IN NUMBER OF TRANSFERS AND ACRES OF LAND TRANSFERRED, 1913-1926

Month	Number of transfers	Acres transferred
January	15.4	827
February	17.5	927
March	28.6	1682
April	37.6	2264
May	21.3	1149
June	17.1	896
July	16.5	924
August	15.8	790
September	14.8	769
October	18.5	958
November	16.0	819
December	18.9	1009

FRANK J. WALRATH

THE GENERAL PRICE LEVEL

In response to frequent requests by county agents and others, an index number of wholesale prices of all commodities in the United States since 1791 is given in Table 1. Methods of calculation are given in the footnotes.

The course of prices following the War of 1812, following the Civil War, and following the World War, have so far shown a considerable degree of similarity.

The course of prices is largely determined by the volume of business, the volume of gold, and by financial policies which affect the amount of paper money or credit in relation to the volume of gold. Following the War of 1812 and the Civil War, there was a rapid expansion of business, particularily in agriculture. Therefore, more money was needed than before the war. The opinion has been held that no such expansion would take place following the World War. While there has been a reduction in agriculture, the expansion in city building, production of automobiles, and other city industries, has been so great as to cause a phenomenal increase in the physical volume of business, probably as great as the expansion following either of the other wars. So far as this factor is concerned, a declining price level seems as probable following the World War as following other wars.

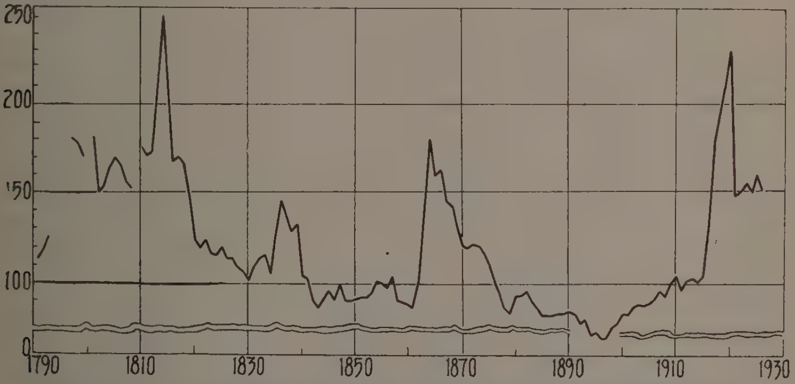

FIGURE 1.—WHOLESALE PRICES IN THE UNITED STATES FOR 137 YEARS.
During the War of 1812, the Civil War, and World War, prices rose rapidly and declined precipitously thereafter. The rate of decline in 7 years was about the same in each case.

The gold supply in the United States is very large, but the writers see no reason for expecting that all this gold will remain here permanently. In spite of this large amount of gold, prices have declined from a peak of 251, in May 1920, to 147 in April 1927. Following the Civil War, the decline in 7 years was from a peak of 209 in July 1864 to 119 in July 1871. Following the War of 1812, the decline in 7 years was from a peak of 250 in 1814, to 119 in 1821.

In 7 years following the War of 1812, prices declined 52 percent.

In 7 years following the Civil War, prices declined 43 percent.

In 7 years following the deflation in 1920, prices declined 41 per cent.

The writers repeatedly have indicated their conclusions that the general course of prices in this period of deflation would be much like the course of prices following the previous wars. Thus far, this conclusion has been correct. It is of course possible that some new factor, such as the discovery of gold mines, may at any time change the course of prices.

G. F. Warren and F. A. Pearson

TABLE 1.—INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES BY MONTHS AND YEARS* 1791-1927.

1910-14 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1791													114
1792													120
1793													127
1794													—
1795													168
1796													—
1797													180
1798													178
1799													170
1800													—
1801													181
1802													149
1803													153
1804													164
1805													169
1806													165
1807													156
1808													152
1809													—
1810													175
1811													170
1812													172
1813													201
1814													250
1815													196
1816													167
1817													169
1818													165
1819													145
1820													124
1821													119
1822													123
1823													116
1824													115
1825	115	114	114	121	123	123	120	117	120	123	122	120	119
1826	117	118	114	113	111	111	113	110	109	111	114	114	113
1827	116	116	116	115	113	111	109	110	113	111	113	116	113
1828	111	109	107	107	105	107	104	104	107	111	110	115	108
1829	115	113	113	110	107	105	99	101	101	102	102	101	106
1830	101	101	101	97	99	98	98	99	103	105	105	107	101
1831	103	107	109	110	109	109	105	107	110	114	116	114	109
1832	120	114	114	109	109	109	109	109	111	115	116	116	113
1833	117	111	110	111	113	113	111	115	118	121	118	118	115
1834	113	109	104	99	101	102	102	104	105	107	108	109	105
1835	113	113	116	118	123	128	134	134	131	129	131	137	126
1836	141	139	144	152	146	137	134	140	144	150	156	154	145
1837	155	160	156	146	127	124	124	126	121	124	131	135	136
1838	134	126	124	122	122	123	123	123	129	136	136	139	128
1839	137	143	143	141	139	136	133	129	129	124	120	114	132
1840	108	108	105	101	99	98	96	98	103	107	108	104	103
1841	103	104	103	101	101	97	97	101	107	107	104	104	102
1842	103	97	95	89	89	88	86	84	84	84	83	85	89
1843	84	82	81	82	84	84	86	86	89	86	89	88	85
1844	89	90	90	90	89	88	88	89	90	90	91	91	90
1845	88	88	90	97	97	92	92	95	97	96	102	105	95
1846	93			89			91			88			90
1847	93			102			102			95			98
1848	89			88			90			90			89
1849	87			88			90			90			89
1850	90			88			92			88			90
1851	93			92			89			89			91
1852	90			89			92			91			91
1853	96			89			91			95			93
1854	99			102			104			96			100
1855	99			99			100			98			99
1856	99			97			95			93			96
1857	99			105			108			99			103
1858	89			91			89			86			89
1859	88			88			89			85			88
1860	88			85			88			88			87
1861	88			84			80			86			85
1862	103			94			97			109			101
1863	130			145			139			148			141
1864	167			161			209			179			179
1865	190			146			137			164			159
1866	168			156			165			157			162
1867	151			142			145			141			145
1868	141			148			141			137			142
1869	135			131			132			124			131
1870	125			117			120			117			120
1871	119			116			119			120			119
1872	122			128			120			113			121

TABLE 1 CONTINUED—INDEX NUMBERS OF WHOLESALE PRICES OF ALL COMMODITIES BY MONTHS AND YEARS, 1791-1927

1910-14 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1873	121			122			121			115			120
1874	117			118			114			114			116
1875	112			109			111			106			110
1876	104			105			98			93			100
1877	97			92			94			89			93
1878	89			87			82			83			85
1879	85			79			80			82			82
1880	94			93			88			91			92
1881	93			90			90			94			92
1882	95			93			96			91			94
1883	93			90			88			85			89
1884	87			87			82			82			85
1885	82			79			79			79			80
1886	81			79			78			80			80
1887	81			82			78			77			80
1888	83			81			79			82			81
1889	83			77			81			81			81
1890	80	80	80	81	81	81	81	85	85	85	83	83	82
1891	82	83	85	85	84	81	81	81	80	80	79	79	81
1892	77	77	75	74	74	74	76	77	77	77	79	80	76
1893	83	84	82	81	80	78	76	74	76	77	75	74	78
1894	73	71	69	69	69	69	69	71	73	70	70	69	70
1895	69	69	69	73	73	74	73	72	71	72	72	71	71
1896	70	69	69	68	67	66	66	66	66	68	70	70	68
1897	68	68	68	67	66	66	66	69	71	70	70	70	68
1898	70	71	71	71	76	71	70	70	70	70	70	71	71
1899	71	73	73	74	74	75	76	77	80	81	81	83	76
1900	83	84	84	84	82	81	82	81	82	81	81	81	82
1901	81	80	80	80	79	79	80	81	82	82	83	84	81
1902	83	83	82	84	85	86	86	85	86	92	89	90	86
1903	91	91	88	88	86	86	86	86	87	86	85	85	87
1904	87	89	88	87	85	85	85	86	87	87	89	89	87
1905	88	89	88	88	87	87	87	88	87	87	88	89	88
1906	89	89	88	89	90	90	87	89	90	92	93	94	90
1907	93	95	94	94	96	96	97	97	97	98	94	92	95
1908	91	90	90	91	91	91	92	92	92	93	94	95	92
1909	94	95	95	97	98	99	99	100	101	102	104	105	99
1910	104	104	106	107	105	104	104	103	102	99	97	97	103
1911	96	94	95	92	92	92	93	96	97	97	96	95	95
1912	96	97	99	102	102	101	101	102	103	103	102	102	101
1913	102	102	102	102	101	101	102	102	104	103	102	100	102
1914	100	100	100	99	99	98	99	103	103	99	99	98	100
1915	100	101	101	101	102	101	102	102	101	104	106	110	103
1916	115	117	121	123	125	125	125	129	132	138	148	152	129
1917	156	160	165	176	186	189	191	193	191	186	186	186	180
1918	188	189	190	193	194	195	200	203	208	206	207	206	198
1919	202	197	199	202	206	207	216	220	214	215	221	227	210
1920	237	237	239	249	251	248	245	236	230	215	200	182	230
1921	173	163	158	151	148	144	144	144	144	144	143	142	150
1922	141	144	145	145	150	152	158	158	156	157	158	159	152
1923	159	160	162	162	159	156	153	153	157	156	155	154	157
1924	154	154	153	151	150	147	150	152	152	155	155	160	152
1925	163	164	164	159	158	160	163	163	163	160	161	159	162
1926	159	158	154	154	155	155	154	152	154	153	151	150	154
1927	150	149	148	147									

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*Roelse, H. V., Wholesale prices in the United States, 1791-1801, Quarterly Publications of the American Statistical Association, Vol. XV, New Series, No. 120, p. 846, December 1917, gives a simple arithmetic index number based on the prices of 56 to 68 commodities from 1791 to 1801, quoted from the Philadelphia General Advertizer from 1791 to 1793 inclusive, and from the Philadelphia Gazette, and Universal Daily Advertizer from 1795 to 1801. The Hansen index number on a 1910-1914 base was 180.9 for the year 1801. The Roelse index was 184.7. To convert the Roelse index to the 1910-1914 base it is multiplied by 0.9794.

Hansen, A. H., Wholesale prices for the United States, 1801-1840, Quarterly Publications of the American Statistical Association, Vol. XIV, New Series, No. 112, p. 808, December 1915, gives an index number based on the prices of 79 commodities quoted from the Boston Gazette from 1801 to 1815, and from the Boston Patriot from 1816 to 1825. From 1825 to 1840, the index number is based on the price of 63 commodities quoted for New York City and given in the Report of the Secretary of the Treasury for 1863. The Cole index number converted to a 1910-1914 base averaged 116.0 for the two years 1825-1826. The Hansen index for the same years averaged 99.7. To convert the Hansen index to the 1910-1914 base, it is, therefore, multiplied by 1.1635.

Cole, A. H., Wholesale prices in the United States, 1825 to 1845. The Review of Economic Statistics, Vol. VIII, No. 2, p. 76, April 1926, gives a monthly unweighted index number based on the prices of 38 commodities from 1825 to 1845 inclusive.

The index numbers calculated by the writers on a 1910-1914 base averaged 91.2 for January, April, July and October, for the two years, 1844 and 1845. The Cole index for the same months averaged 77.0. To convert the Cole index to the 1910-1914 base, it is, therefore, multiplied by 1.18442.

For the period 1844 to 1890, the writers calculated an index number based on 20 commodities, prices of which are given in Wholesale Prices, Wages, and Transportation Report by Mr. Aldrich, from the Committee on Finance, 52nd Congress, 2nd Session, Report 1394, Part II, March 1893. The commodities included by the writers were: corn, corn-starch, winter wheat, crackers, butter, cheese, mess beef, hogs,

(Footnote continued on next page.)

COSTS OF OPERATING COUNTRY MILK PLANTS SHIPPING RAW MILK IN CANS

There are three distinct types of fluid milk plants shipping milk to the New York market; plants shipping raw milk in 40-quart cans; plants shipping pasteurized milk in cans; and plants shipping pasteurized milk in bottles. Raw milk plants are by far the most numerous, more than half of the milk being pasteurized after it arrives in the city. The tendency is toward less pasteurizing in the country.

TABLE 1.—COST OF HANDLING 100 POUNDS OF MILK IN COUNTRY PLANTS SHIPPING RAW MILK IN CANS (1925)

	Volume of milk handled during the year			
	Less than 4 million pounds	4 to 8 million pounds	Over 8 million pounds	All plants
Number of plants	14	12	12	38
Average volume:				
Million pounds per year	2,784,331	5,471,687	13,629,208	7,057,668
Cans per day	90	176	439	227
Costs of Operation	Cents per 100 pounds			
Land and building costs:				
Interest[1]	1.32	0.91	0.50	.072
Depreciation[2]	1.57	1.11	0.55	0.83
Taxes	0.77	0.42	0.38	0.44
Repairs and maintenance[3]	1.86	1.41	0.84	1.13
Insurance	0.74	0.32	0.14	0.27
Rent	0.11	0.10	0.14	0.13
Total land and building costs	6.37	4.27	2.55	3.52
Equipment costs:				
Interest[1]	0.66	0.44	0.47	0.49
Depreciation[2]	1.75	1.18	1.24	1.30
Repairs[3]	1.20	0.96	0.48	0.70
Insurance	0.37	0.17	0.11	0.16
Total equipment costs	3.98	2.75	2.30	2.65
Labor costs[4]	11.89	9.87	8.50	9.33
Supply costs:				
Coal	2.40	1.73	1.39	1.62
Ice	3.77	2.69	1.11	1.88
Cleanser	0.33	0.28	0.18	0.23
Other cleaning material	0.13	0.14	0.11	0.12
Miscellaneous supplies	1.05	0.45	0.59	0.62
Total supply costs[1]	8.09	5.75	3.93	4.98
Miscellaneous costs[5]	2.56	2.56	2.33	2.42
Total Operating Expenses[6]	32.89	25.20	19.61	22.90

[1] Interest was figured at 6 per cent on half the estimated reproductive value of buildings and equipment, and at 6 per cent on the average inventory value of land and supplies.

[2] Depreciation was figured at the following percentages of the reproductive values: frame buildings 4 per cent; brick, hollow tile and concrete tile buildings 3.5 per cent; concrete buildings 3 per cent; land improvements 4 per cent; all equipment 8 per cent.

[3] The charge for repairs and maintenance includes work done by plant labor as well as supplies and repairs by outside labor.

[4] Labor on land, buildings or equipment is not included, but has been distributed directly to land, buildings and equipment.

[5] Miscellaneous expenses include: electric light and power, telephone, superintendents' travelling expenses, and similar items.

[6] Central office expenses for accounting, executive salaries, sanitary control etc. are not included.

(Footnote continued from page 699)

lard, cotton, leather, lime, pine boards, rope, anthracite coal, lead, copper, sulphur, linseed oil, iron rods. The prices of wool were obtained from Wright, C. W., Wool Growing and the Tariff, p. 347, 1910.

In each case, the January index number here published is the same as the simple average given on page 93 of the Aldrich Report. The index number for April, July and October bear the same ratio to this January index that they had to the January index number as calculated by the writers. Index numbers were then converted to a 1910-1914 base.

From 1890 to 1927, the monthly index prepared by the Bureau of Labor Statistics of the United States Department of Labor was used. The five-year average for 1910-1914 is 98.2. To convert this index to the 1910-1914 base, all figures are, therefore, divided by 98.2.

The functions of a raw milk plant are, to receive milk every morning as delivered by the farmers, weigh, sample, and cool it, put it into clean 40-quart cans, and load it on the cars for shipment. Both the farmers' cans, and the cans returned from the city are washed at the plant. The milk samples are tested for butterfat, two or three times each month.

The average cost of handling milk in 38 raw milk plants shipping milk to New York in 1925 was 22.9 cents per 100 pounds (Table 1). This amount included all the direct expenses incurred in connection with the operation of these plants but not the central office expenses for accounting, executive salaries, sanitary control, etc.

Land and building costs constituted 15.4 per cent, equipment, 11.6 per cent, labor, 40.7 per cent, supplies, 21.7 per cent, and miscellaneous expenses, 10.6 per cent of the total operating cost. These plants were larger than the average for the territory as a whole. The average quantity of milk handled by these plants during the year was 7.1 million pounds. This was equivalent to 227 cans a day. The average volume of milk handled by the 474 fluid milk plants in New York State in 1924 was 5.1 million pounds, or 164 cans per day.

The costs of handling one hundred pounds of milk were much less in the plants that handled a large volume than in those which handled a small volume. The average cost in the 14 plants that handled less than 4 million pounds during the year (90 cans per day) was 32.9 cents per hundred pounds. The average cost in 12 plants handling more than 8 million pounds annually (439 cans per day) was 19.6 cents per hundred pounds, or 13.3 cents less. In the smaller plants it would cost about $296. to handle the milk from a dairy of 15 cows, each producing 6000 pounds of milk a year. The cost of handling the same milk in the larger plants would be $176., or $120. less.

The average operating costs for plants in each volume group are given in Table 2.

TABLE 2.—AVERAGE ELEMENTARY COSTS AND RATIOS IN RAW MILK PLANTS

Elementary costs	Volume of milk handled during year				
	Less than 4 million pounds	4 to 8 million pounds		Over 8 million pounds	
	Amount	Amount	Ratio to group 1	Amount	Ratio to group 1
Land and buildings	$1,773.16	$2.334,96	1.32	$3,469.71	1.96
Equipment	1,109.42	1,502.38	1.35	3,135.17	2.83
Labor	3,312.45	5,402.99	1.63	11,584.07	3.50
Supplies	2,251.39	3,145.32	1.40	5,349.53	2.38
Miscellaneous	713.72	1,398.01	1.96	3,177.37	4.45
Total	$9,160.14	$13,783.66	1.50	$26,715.85	2.92
Average output, pounds	2,784,331	5,471,687	1.97	13,629,208	4.90

The average volume of milk handled by the largest plants was nearly five times as great as that handled by the smallest plants, but the average costs in the largest plants were less than three times as great.

The relatively large increase in miscellaneous costs in the large plants was due in part to the fact that more of them were using electric power.

The costs given in Tables 1 and 2 do not include central office expenses for accounting, executive salaries, sanitary control etc. These expenses were not available for all the firms that furnished the plant operating costs. It is estimated that these expenses amount to about 5 cents per 100 pounds.

C. K. Tucker

RETURNS FROM POULTRY FARMING ON 32 LONG ISLAND FARMS

Records for the year ending September 30, 1926 were taken for 32 poultry farms on Long Island. The average size of these farms was 13.5 acres valued at $1872 per acre. Much of the high valuation is due to the value of land on Long Island for city building purposes.

The size of flock varied from 465 to 4077 birds, averaging 1322. There were eight farms with more than 1500 chickens per farm. Of birds, 68 per cent were pullets, 30 per cent hens, and 2 per cent males. The proportion of the flock comprised of pullets varied from 37 to 100 per cent.

The total capital was $29,242 per farm, of which 87 per cent was in real estate, and the remainder in poultry equipment and supplies. The average receipts per farm were $10,092, about two-thirds of which was from market eggs and the remainder chiefly from other poultry products. (Table 1.)

TABLE 1.—AVERAGE RECEIPTS ON 32 LONG ISLAND POULTRY FARMS

	Total per farm	Per cent of total
Eggs:		
Market	$ 6,838	67.8
Hatching	47	0.5
Poultry:		
Baby chix	499	4.9
Pullets sold	381	3.8
Fowls and broilers for meat	1,775	17.6
Fowls and cockerels for breeders and layers	58	0.6
Other livestock sold	5	
Milk products	5	
Crops sold	59	0.6
Increase in capital	230	2.3
Miscellaneous receipts	195	1.9
Total receipts	$10,092	100.0

The average price received for eggs sold was 47.9 cents per dozen.

The farm expenses averaged $6159 per farm. Of this amount, 68.8 per cent was for feed, 15.4 per cent for labor, 2.5 per cent taxes, 13.3 per cent for all other expenses. The difference between the receipts and expenses averaged $3933 per farm.

Interest at 5 per cent ($1462) on the capital when deducted from the farm income leaves an average labor income of $2471 for the 32 farmers. The labor incomes varied from —$702 to $12,718. Sixteen per cent failed to make interest and 37 per cent made labor incomes of more than $2000.

The average return on the capital after the value of the operators' time was deducted from the farm income was 7.6 per cent. Feed was cheap relative to egg prices during the year. Incomes were therefore better than can be expected over a series of years.

The cost of producing eggs averaged 40.7 cents per dozen, of which 44.5 per cent was for feed, 22.6 per cent for labor, 17.6 per cent for depreciation on the flock, and 15.3 per cent for other costs. The return per hour of labor in producing eggs was 92.6 cents.

The feed cost per bird averaged $2.16. The total cost was $4.85. The returns for eggs sold were $5.21 per fowl; the total returns, $5.72 per fowl allowing a gain of 87 cents per fowl in the laying flock or $1151 per farm. The quantities of feed used per fowl by the laying flock are given in Table 2.

The cost of raising a pullet was $1.18, of which feed was 60 per cent and labor 18 per cent.

The cost of incubating eggs per 1000 chicks was $135, including the value of the eggs set.

The flock production averaged 39 per cent for the year; was lowest in October 15.8 per cent and highest in May, 53.2 per cent. There were only three months of the year, April, May and June when the percentage flock production was over 50 per cent. The average number of eggs per hen was 142, calculated on an average monthly inventory basis.

TABLE 2.—SUMMARY OF QUANTITIES OF HOME GROWN AND PURCHASED FEED USED BY LAYING FLOCK

Feed	Pounds per fowl
Grain	44.73
Mash	35.43
Milk products:	
Semi-solid	3.69
Dried	0.24
Green feed	5.32
Cod liver oil	0.27
Shell	2.19
Other materials	0.86
Total	92.73

The following factors were important in influencing the net returns: (1) eggs per hen, (2) size of flock, (3) proportion of pullets, (4) combination of the sale of chicks and pullets with egg production.

The farmers obtaining high egg production per hen, having larger flocks, having a large proportion of flock pullets, and operating a diversified poultry business which combined the sale of baby chix and pullets along with eggs, were making the most money.

The proportion of the eggs sold in the fall months from September to December had little effect on profits. The poultryman who is skillful enough to get high production for the year, and also a large proportion of it when eggs are high in price will make more money than from equal yearly production, with a high percentage of it when eggs are low in price. But, apparently on the farms studied a high fall production is obtained at a sacrifice of yearly production. The farms selling a large proportion of the eggs in the fall obtained 18 less eggs valued at 70 cents less per hen than the farms producing more eggs in the spring. They gained 34 cents a hen because of better prices. This was not sufficient to offset the decreased income, because of lower production per hen.

The Long Island poultryman has the advantage of a good market. His plant is not adaptable to other types of farming. He necessarily must plan to continue in the poultry business through periods of both relatively favorable and relatively unfavorable egg-price to feed-price periods. This being the case he should plan, (1) to buy feed cooperatively with neighbors at the right season of the year to get the lowest prices; (2) to adjust his plant so that the greatest labor efficiency will result; (3) to market his eggs directly as far as possible to inns, stores and private customers so as to receive as large a share as possible of the price which consumers pay; (4) to diversify the organization of the farm so that other branches of the poultry business, such as the sale of pullets and baby chicks is combined with the production of market eggs.

E. G. Misner

TRENDS IN THE FERTILIZER TONNAGE—1909-1925

During the 17 year period, 1909-1925, large increases in the fertilizer tonnage have occurred in those states where cotton production was expanding, in North Carolina, Arkansas and Texas (Table 1). There have been large increases in tonnage in those states which are favorably located for the production of fruits, vegetables and potatoes, Florida, Ohio, Michigan, Maine, California and New Jersey. There have also been increases in tonnage in the tobacco growing states, Virginia, Tennessee, Kentucky and Connecticut.

The large decreases in tonnage have been in the eastern cotton belt states, especially in Georgia, South Carolina and Alabama, where cotton production has been unprofitable because of boll weevil damage.

TABLE 1—ANNUAL CHANGES IN FERTILIZER TONNAGE, 1909-1925 STATES ARRANGED IN ORDER OF INCREASES IN TONNAGE

	State	Average annual tonnage	Per cent of United States tonnage	Average annual increase in tonnage	Per cent increase
1.	North Carolina	860,109	13.67	34,900	4.06
2.	Florida	249,149	3.96	13,206	5.30
3.	Ohio	229,868	3,65	12,620	5.49
4.	Virginia	411,736	6.55	6,274	1.52
5.	Michigan	75,761	1.20	4,397	5.80
6.	Mississippi	132,545	2.11	4,272	3.22
7.	Indiana	187,242	2.98	4,086	2.18
8.	Tennessee	90,256	1.44	3,506	3.87
9.	Arkansas	60,276	0.96	3,421	5.68
10.	Maine	155,665	2.47	3,271	2.10
11.	Texas	54,974	0.87	2,904	5.28
12.	California	51,413	0.82	2,584	5.03
13.	Kentucky	80,294	1.28	2,230	2.78
14.	New Jersey	149,756	2.38	2,150	1.44
15.	Connecticut	66,626	1.06	2,129	3.20
16.	Missouri	56,795	0.90	1,682	2.96
17.	West Virginia	44,522	0.71	1,553	0.35
18.	Washington	7,656	0.12	1,294	16.90
19.	Pennsylvania	321,269	5.11	1,041	0.32
20.	Louisiana	90,391	1.44	940	1.04
21.	Wisconsin	7,853	0.12	925	11.78
22.	Delaware	38,625	0.61	518	1.34
23.	Massachusetts	60,221	0.96	411	0.68
24.	Oregon	5,724	0.09	347	6.06
25.	Kansas	6,679	0.11	195	2.92
26.	Maryland	162,485	2.58	141	0.09
27.	Vermont	16,500	0.26	66	0.40
28.	New Hampshire	16,412	0.26	−7	−0.04
29.	New York	384,471	6.11	−86	−0.02
30.	Rhode Island	9,947	0.16	−116	−1.17
31.	Oklahoma	3,812	0.06	−206	−5.40
32.	Alabama	376,973	5.99	−2,113	−0.56
33.	Illinois	25,235	0.40	−2,561	−10.15
34.	South Carolina	874,354	13.94	−9,703	−1.11
35.	Georgia	897,917	14.26	−27,373	−3.05
	United States	6,289,882	100.00	67,972	1.08

During the 17 years, 1909-1925, the average annual increase in the fertilizer tonnage in the United States was 67,792 tons, a yearly increase of 1.08 per cent. The tonnage in the South Atlantic States increased at the rate of 0.55 per cent per year and in the North Atlantic States 0.75 per cent. The percentage growth in the tonnage in these two regions, which consume about 75 per cent of the total tonnage, was not as large as for the United States.

Consumption in the South Central States and in the North Central States east of the Mississippi River, increased at a faster rate, 1.68 and 3.70 per cent respectively. There were large percentage increases in the regions west of the Mississippi River, 2.80 per cent for the North Central States, and 6.22 per cent for the far Western States. The consumption in these regions, however, is so small that it is relatively unimportant.

The yearly increase in tonnage in the South Atlantic States was 19,507 tons, or 28.8 per cent of the United States increase. In the North Atlantic States, the yearly increase was 8,787 tons per year, or 13.0 per cent of the total. Only 41 per cent of the increase in the fertilizer tonnage was in the two regions which consume 75 per cent of the total tonnage. Fifty-one per cent of the increase in tonnage was in South Central States and North Central States, east of the Mississippi River, a region which consumes only 22 per cent of the total tonnage.

TABLE 2.—ANNUAL CHANGES IN FERTILIZER TONNAGE FOR REGIONS IN THE UNITED STATES, 1909-1925

	Average annual consumption (tons)	Per cent of United States tonnage	Average annual increase in consumption (tons)	Percentage increase	Per cent of United States increase
United States	6,289,882		67,792	1.08	100.00
South Atlantic States	3,537,882	56.2	19,507	0.55	28.77
North Atlantic States	1,164,294	18.5	8,787	0.75	12.96
South Central States	889,824	14.1	14,946	1.68	22.05
North Central States (east of (Mississippi River)	526,000	8.4	19,461	3.70	28.70
North Central States (west of Mississippi River)	71,941	1.1	2,020	2.81	2.98
Far Western States	68,706	1.1	4,272	6.22	6.29

The fertilizer tonnage varies from year to year. The coefficient of variability of the United States tonnage is 12.95. Consumption in the North Atlantic States is more constant, the coefficient of variability is only 7.18. The variability of the fertilizer tonnage in the South Atlantic States is almost twice as large (14.13). Altho a considerable variety of crops are grown in the Southern Atlantic States, cotton and tobacco predominate. Crop production is less diversified than in the North Atlantic States. In the South Central States, the farm income is primarily from cotton and the tonnage is much more variable (26.47). In localities where the farmers' income is primarily from one crop, the variability of the tonnage is usually large. Fluctuations in the value per acre of the crop on which fertilizer is used causes fluctuations in the fertilizer tonnage.

TABLE 3.—STANDARD DEVIATION AND COEFFICIENT OF VARIABILITY OF FERTILIZER CONSUMPTION BY REGIONS

Region	Average annual consumption (1909-1925 (tons)	Standard deviation (tons)	Coefficient of variability
South Atlantic States	3,537,882	499,750	14.13
North Atlantic States	1,164,294	83,560	7.18
South Central States	889,823	235,510	26.47
North Central States (east of Mississippi River)	526,000	110,410	20.99
North Central States (west of Mississippi River)	71,941	25,070	34.85
Far Western States	68,706	24,060	35.02
United States	6,288,882	814,570	12.95

The variability in the fertilizer tonnage in the North Central States east of the Mississippi River is relatively high (20.99). This is due in part to the general increase in the tonnage which occurred during the years, 1909-1925. The same is true for the states west of the Mississippi River. Since the data on tonnage in these states is estimated, the data is not so reliable as for the Southern States where tag sales are available.

The financial risks involved in manufacturing and distributing commercial fertilizer are probably greatest in those regions where the tonnage is most variable. Violent fluctuations in tonnage cause great variations in the earnings of fertilizer companies.

E. E. VIAL

COSTS AND MARGINS IN THE WHOLESALE MARKETING OF FRUITS AND VEGETABLES AT NEW YORK CITY, 1924

These data are used from studies carried on by the Department of Agricultural Economics and Farm Management, New York State College of Agriculture, in cooperation with the Bureau of Agricultural Economics, United States Department of Agriculture.

During the year 1926, carload receipts of fruits and vegetables at New York City totalled 212,094 and included approximately 72 kinds of fruits and vegetables from every state in the Union and many foreign countries.[1] Approximately 85 per cent of the fruit and vegetable portion of the food supply of the New York metropolitan district passes thru the great wholesale market on the lower west side of Manhattan Island. The district roughly bounded by Franklin Street on the north, Ninth Avenue on the East, Cortlandt Street on the south and the Hudson River on the west.

The average length of haul of fruit and vegetable receipts is 1500 miles.[2] With growers and shippers at country points so widely separated from receivers and handlers in terminal markets, the complexity of modern fruit and vegetable marketing is not easily understood by either party. Failure to appreciate the factors making for the wide divergence between prices reported paid in terminal markets and those received at country points tends, furthermore, to foster a feeling that exorbitant profits are being taken in the city at the expense of both grower and consumer.

In an effort to learn the facts concerning the costs of distributing fruits and vegetables in terminal markets and with the hope of obtaining criteria which might be used in reducing these costs, studies have been made of the wholesale and jobbing produce business in Pittsburgh, Pa., Newark, N. J. and New York City. A preliminary report on the findings in the Pittsburgh study was published in Farm Economics No. 39, November 1926. A brief analysis of the accounts of twenty-six wholesale produce firms in the New York metropolitan district for the year 1924 is presented herewith.

Functions of Wholesalers

The primary function of wholesalers in the New York metropolitan district is to act as receivers of produce arriving in carload and less than carload lots. Some produce is bought outright, or handled on a joint account basis, but by far the greater portion is handled on a commission charge, viz., a certain rate per cent of the gross sales of the produce involved. For the 26 wholesalers studied, 80.4 per cent of the produce was handled on a commission basis, 14.8 per cent was purchased outright, and only 4.8 per cent was handled on a joint account basis.The tendency is for more outright purchases and joint account deals and less commission selling.

The services which New York wholesalers render in the handling of perishable fruits and vegetables differ from similar services in other great terminal markets because of the location of the New York wholesale market on Manhattan Island. This situation makes it necessary to combine marine and land operations in handling a very large share of the products, and, of course, adds materially to handling costs.

The New York wholesaler characteristically performs all the routine services incident to accepting delivery of a carload of produce from the railroad and arranging for its display at docks or store. In addition, the wholesaler breaks up and sells the carload in such units as may be desired by chain stores or jobbers who cater to grocery stores, hotels, steamships, restaurants, fruit stands and the like. Very few of the wholesale receivers engage in retailing produce. Most of the wholesalers devote all of their energies to receiving carloads and selling the same in units of approximately 20 packages as desired by jobbers. The jobbers in turn cater to the highly specialized and diversified wants of groceries, hotels, restaurants, steamships, fruit stands and the like. An analysis of jobbers' costs will be prepared in the near future.

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[1] Receipts of Fruits and Vegetables in New York City, Calendar year 1926. United States Department of Agriculture, Bureau of Agricultural Economics, Market News Service, New York, March 1927.

[2] Produce Terminal Requirements in the New York Area. Port of New York Authority cooperating with U. S. Department of Agriculture, New York, April 1925.

Gross Costs and Margins

The twenty-six wholesale firms studied had gross sales of fruits and vegetables for the year 1924 amounting to $34,802,309.98 or an average per firm of $1,338,550.38. Out of this total, $31,214,461.19 or 89.69 per cent was returned to country shippers or growers or paid out in railroad transportation charges, (Table 1) Cartage of produce within the metropolitan district (mostly from rail points in New Jersey to the terminal market) absorbed $275,485.18 or 0.79 per cent and storage and tariff duties absorbed $54,807.86 or 0.16 per cent of gross sales. Allowances granted jobbers for alleged defective goods resulted in deductions from gross sales of $138,867.92 or 0.40 per cent. When all these charges had been met, there was left a total gross margin of $3,118,687.83 or 8.96 per cent of gross sales to cover wholesale costs of distribution in the New York metropolitan district and any profits or losses. The actual costs of distribution, including salaries of proprietors, but not including net profits, were $3,047,350.02 or $117,205.77 per firm. Actual net profits per firm were $2,743.76 or two-tenths of one per cent of gross sales.

TABLE 1.—DATA CONCERNING GROSS SALES AND COSTS OF DISTRIBUTING FRUITS AND VEGETABLES IN THE NEW YORK METROPOLITAN DISTRICT BY 26 WHOLESALE PRODUCE FIRMS 1924

Item	Total 26 firms	Average per firm	Per cent of gross sales
Amount paid to country growers or shippers for fruits and vegetables (Including railroad and steamship transportation)	$31,214,461.19	$1,200,556.20	89.69
Cartage in metropolitan district (largely from Jersey railpoints to lower west side Manhattan)	275,485.18	10,595.58	.79
Returns and allowances (Deductions allowed jobbers from wholesale price for alleged defective produce)	138,867.92	5,341.07	.40
Storage charges and import duties	54,807.86	2,108.00	.16
Costs of distribution in metropolitan New York district (not including proprietors' salaries and profits or losses)	2,702,525.59	103,943.29	7.76
Salaries and profits of proprietors*	416,162.24	16,006.24	1.20
Gross Sales	$34,802,309.98	$1,338,550.38	100.00

*There were 65 active partners or proprietors in the 26 firms studied, or an average of 2½ proprietors per firm.

It thus appears that for each dollar's worth of fruits and vegetables distributed, approximately 90.5 cents were returned to the grower or country shipper or paid out for transportation to the terminal market, and 8.3 cents were absorbed by costs of distributing in the metropolitan district, leaving a margin of 1.2 cents to cover proprietors' salaries and net profits.

Comparison with Other Industries

In the Pittsburgh study[3] it was found that the margins taken by Pittsburgh produce dealers for services in handling perishable fruits and vegetables were less than wholesale margins in other industries, as reported by the Harvard School of Business Research. The margins taken by New York wholesale produce men, both gross and net, were approximately the same as those taken in Pittsburgh during the same year, (Table 2.) The gross margin in the New York area was 8.96 per cent of gross sales compared with 8.8 in Pittsburgh, but the net profit in Pittsburgh, 0.4 per cent of gross sales, was double that in New York, 0.2 per cent.

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[3] Farm Economics No. 39, November 1926, pp. 552 and 553.

TABLE 2.—PER CENT OF GROSS MARGINS AND NET PROFITS IN VARIOUS LINES OF WHOLESALE BUSINESS

Type of business	Number of firms	Year	Gross Margin taken (per cent)	Net profit taken (per cent)
Wholesale groceries*	501	1923	11.3	0.7
Wholesale dry goods**	71	1923	17.6	1.0
Wholesale automotive equipment***	151	1924	24.8	1.3
Wholesale drugs†	129	1924	17.1	1.3
Wholesale fruits and vegetables†† Pittsburgh	15	1924	8.8	0.4
Wholesale fruits and vegetables††† New York	26	1924	8.9	0.2
Average			14.8	0.81

*Operating Expenses in the Wholesale Grocery Business in 1923. Bureau of Business Research, Harvard University, Bulletin No. 40, page 11, May, 1924.

**Operating Expenses in the Wholesale Dry Goods Business in the South in 1923. Bureau of Business Research, Harvard University, Bulletin 45, page 13, August 1924.

***Operating Expenses in the Wholesale Automobile Equipment Business in 1924. Bureau of Business Research, Harvard University, Bulletin 51, page 19, June, 1925.

†Operating Expenses in the Wholesale Drug Business in 1924. Bureau of Business Research, Harvard University, Bulletin 50, page 22, June, 1925.

††Farm Economics 39, November 1926, page 553.

†††Study of New York produce trade, 1924.

In both cities, the margins, both gross and net, taken in the handling of perishable fruits and vegetables were approximately half those taken in the other industries cited in Table 2. It would probably be difficult to find an industry more highly competitive than the wholesale fruit and vegetable business. It may be too highly competitive for the best interests of all concerned.

TABLE 3.—ITEMS OF COST INCURRED BY 26 WHOLESALE PRODUCE FIRMS IN DISTRIBUTING $34,802,309.98 WORTH OF FRUITS AND VEGETABLES IN THE NEW YORK METROPOLITAN DISTRICT, 1924

Item of cost	Total cost 26 firms	Average cost per firm	Per cent of gross margin
Wages of employees	$1,203,648.48	$46,294.17	38.59
Salaries of proprietors	344,824.43	13,262.48	11.05
Net profit	71,337.81	2,743.76	2.29
Commission & Brokerage*	316,832.12	12,185.85	10.16
Bad debts	215,449.27	8,286.51	6.91
Bags, barrels, crates, stencils, etc.	151,846.56	5,840.25	4.87
Rent	132,481.69	5,095.45	4.25
Traveling expenses	129,051.51	4,963.52	4.14
Telephone & Telegraph	117,085.81	4,503.30	3.75
Interest on investment	106,981.44	4,114.67	3.43
Miscellaneous expenses	81,499.18	3,134.58	2.61
Depreciation and repairs	58,857.14	2,263.74	1.89
Office supplies	46,378.46	1,783.79	1.49
Advertising	27,821.89	1,070.07	.89
Insurance	27,418.84	1,054.57	.88
Taxes	16,427.38	631.82	.53
Interest on borrowed money	16,312.17	627.39	.52
Heat, light & power	11,734.13	451.31	.38
Legal fees, audits, etc.	11,430.60	439.64	.37
Auto expense	11,240.94	432.34	.36
Collection service	7,888.89	303.42	.25
Donations, etc.	5,369.91	206,54	.17
Market News service	3,677.55	141.45	.12
Inspection	3,091.63	118.91	.10
Gross margin	$3,118,687.83	$119,949.53	100.00

*Commissions paid country agents for soliciting and handling consignments at country points; and brokerage paid city brokers in same or other markets for services in disposing of cars of produce.

Detailed Costs of Marketing

The data covering itemized costs of distribution for the 26 firms are given in Table 3. It will be noted that in rendering services as a carload receiver of fruits and vegetables, the New York wholesaler must himself hire or buy a large amount of service of all kinds. Table 3 shows 23 groups of items of expense commonly met in the produce business.

Labor and Management the Largest Cost Items

As in the Pittsburgh study, wages of employees stand out clearly as the most important item of cost of distribution in the New York area. In distributing thirty-five millions of dollars worth of produce, these wholesalers spent $1,203,648.48 for wages of employees. This was 38.6 per cent of all costs of terminal distribution. When salaries of partners' or proprietors are included, labor and management accounted for 49.6 per cent of all costs of distribution.[4]

Wages for truck drivers, porters and loaders are fixed by agreement with unions and uniform to all produce men. A great deal of the labor is done during the night or extremely early hours of the morning, and the working periods are usually long. Extra wages must often be paid in other industries to induce labor to work at night rather than in the daytime, and the produce business also meets this problem.

The role played by labor in the costs of marketing is strikingly apparent from a comparison of wages paid by produce firms in 1926 and 1914, (Table 4).

TABLE 4.—A COMPARISON OF AVERAGE WEEKLY WAGES PAID VARIOUS CLASSES OF LABOR IN THE PRODUCE BUSINESS IN THE NEW YORK METROPOLITAN DISTRICT IN 1914 and 1926, AS REPORTED BY PRODUCE FIRMS

Classification of employee	Average weekly wage paid 1926	Average weekly wage paid 1914	Per cent increase 1926 over 1914 wage
Salesmen	$108	56	93
Bookkeepers	49	25	96
Stenographers	34	19	79
Clerks	35	15	133
Truck drivers	53	17	212
Porters	40	18	122
Executives	106	47	126
Average all employees	$61	$28	118

It should also be borne in mind that besides the direct labor charges referred to above, such items as rent, telephone and telegraph, cartage, etc., are to a large degree composed of labor.

Building Costs

The rental and use of offices and stores for display and sale of fruits and vegetables amounted to $288,675.77 or 9.3 per cent of total costs of distribution. Many wholesalers were much concerned over the rapidly rising rents in the New York metropolitan district.

Bad Debts

Bad debts are a factor in most types of business but they are particularly serious in the fruit and vegetable business. The produce trade in the New York area has organized a very efficient credit association, the purpose of which is to collect bills and prevent sales to dishonest or incompetent buyers. Despite the utmost vigilance, however, losses to the extent of $215,449.27

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[4] The index number for factory wages in New York State in January 1925 was 223 as compared with 100 in prewar days. Farm Economics No. 36, page 505, August 1926.

were incurred during 1924 by the 26 firms studied. Bad judgment and outright dishonesty were responsible for approximately 5 per cent of the costs of distribution in 1924.

The rapid, almost daily, turnover of produce by jobbers and retailers makes it relatively easy to launch into the produce business with a relatively small capital. Until recently, the bankruptcy laws of the State of New York have been a standing invitation to dishonest persons to establish temporarily a good reputation, by paying bills promptly, then buy a large amount of produce on credit, sell it rapidly, and enter a plea of bankruptcy. The bankruptcy laws of the State have recently been amended largely through the efforts of the produce trade. It is likely that losses from bad debts will be reduced somewhat in the future.

It should be recognized, however, that the perishable nature of the commodities handled may force the taking of chances with less reputable customers. The wholesaler is frequently faced with the choice of either holding highly perishable commodities (as lettuce, strawberries, melons, peaches, etc.) a day longer and risking great loss from deterioration or of selling to a customer of low financial and moral rating, and risking loss of the sales price. The latter alternative is usually taken rather than let food spoil.

By means of national credit rating books, local credit associations, black lists, etc., the wholesale trade is vigorously combating the bad debt evil, but it is doubtful if it can ever be more than moderately reduced.

Communication Costs

With shipper and receiver separated, on the average, some 1500 miles, it is obvious that use of telegraph and telephone services must play a large role. The 26 wholesalers spent $117,085.81 during 1924 on telephone calls and telegrams in selling thirty-five million dollars worth of produce. This was 3.75 per cent of city distribution costs.

Managerial Salaries

There were 65 managers, partners or proprietors in the 26 New York firms studied or an average of 2½ per firm. These 65 principals received an average salary of $5,304.96 for their year's work, or about $100 per week. Some of these principals held stock in these produce firms and shared in the net profits or net losses of the firm. If the principals had received all of the net profits above interest in addition to their salaries, each principal would have received $6,402.49 for his year's work, or about $123 per week. Since salesmen hired by these firms are paid an average wage of $5,616 per year (Table 4), the salaries of the managers, who must supervise these salesmen as well as the entire business, does not seem out of line.[5]

In the Pittsburgh study, the average salary per proprietor was $5,158; if all net profits above interest accrued to the proprietors, the average net income per proprietor was $6,650. In Pittsburgh the average volume of gross sales was $685,000 per firm, while the average for New York was $1,338,000 per firm.

Profits and Losses

While the average figures indicate that a net profit was made by the twenty-six firms during the year 1924, there were actually 18 firms whose books showed a net profit and 8 who had a net loss. The highest net profit made by any one firm was $24,390; the largest loss by any one firm was $25,308.

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[5] The proprietors of these firms invariably commented on the difficulty of inducing promising young men to enter the produce business because of the relatively low salaries earned as compared with alternative opportunities. As a result, less desirable types of workers are becoming more and more of a factor in the produce business.

It is recognized that the value of these data is limited by the small number of firms studied and the fact that only one year's records are involved. However, analysis of the books of these same firms for periods ranging from 5 to 15 years fail to reveal any substantial departure from the facts presented.

Consultation of national rating books, collection services and officers of produce associations indicate that the 26 firms who cooperated in this study are probably of higher grade than the average produce firm.

Standards of Comparison

There were not available, insofar as could be learned, any standards of comparison which the proprietor of a wholesale produce firm might use in judging as to the efficiency of his business operations. Evidently such a standard is needed, since the cost of distribution by these 26 firms per $1000 worth of gross sales varied from $37.66 to $182.77 and averaged $87.56. The labor costs alone of handling fruits and vegetables per $1000 of gross sales varied from $7.30 to $35.56 and averaged $34.59. Similar wide variations were likewise found in salaries of proprietors, rent, bad debts, traveling expenses and commission and brokerage. The average costs per $1000 of gross sales, with the highest and lowest costs, are given in Table 5.

TABLE 5.—AVERAGE AND VARIATIONS IN ITEMS OF COST OF DISTRIBUTION PER $1000 OF GROSS SALES, 26 WHOLESALE PRODUCE FIRMS, NEW YORK METROPOLITAN DISTRICT, 1924

Item of cost	Cost of Distribution per $1000 of Gross Sales		
	Average cost 26 firms	Lowest cost Dealer "I"	Highest cost Dealer "S"
Wages of employees	$34.59	$7.30	$35.56
Salaries of proprietors	9.91	7.46	11.38
Commissions & Brokerage	9.10	1.07	80.73
Bad debts	6.19	4.36	2.37
Crates, stencils, etc	4.36	.01	15.59
Rent	3.81	4.42	14.52
Traveling expenses	3.71	2.70	7.06
Telephone & telegraph	3.36	1.22	1.68
Interest on investment	3.07	5.87	6.55
Miscellaneous expenses	2.34	.53	.87
Depreciation & repairs	1.69	.13	3.96
Office supplies	1.33	1.82	.50
Advertising	.80	.11	
Insurance	.79	.31	.54
Taxes	.47		
Interest on borrowed money	.47		.57
Heat, light & power	.34	.23	
Legal fees, audits, etc	.33		.61
Auto expense	.32		
Collection service	.23	.12	.28
Donations, etc	.15		
Market news service	.11		
Inspection	.09		
Total cost	$87.56	$37.66	$182.77

If it is assumed that an efficient firm should have its individual cost items below or at least not in excess of the average, a comparison of costs may be of service to the management of produce firms in locating weak spots in their organizations and making them more efficient.

M. P. Rasmussen

PRICES OF WHITE EGGS, 1926

The New York City prices of various grades of eggs during 1926 are given in Table 1. In the spring months, when eggs are cheap, there is very little difference between prices of the better and of the poorer grades of eggs, usually amounting to less than 20 per cent. In November, when eggs are scarce, the differences amount to about 50 per cent in favor of the best eggs. In the spring there are more than enough eggs to supply the discriminating demand. This is not true in the fall.

G. F. Warren and F. A. Pearson

TABLE 1.—PRICE OF WHITE EGGS AT NEW YORK CITY—1926
CENTS PER DOZEN

Class	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
Jersey and other nearby hennery white closely selected extras	48.2	42.1	38.6	36.9	37.5	39.1	43.1	49.8	58.3	73.0	78.4	63.5	50.7
Nearby and nearby western hennery whites, average extras	46.2	40.5	36.8	35.3	35.8	36.9	40.0	45.6	54.6	69.5	75.5	61.3	48.2
Nearby and nearby western hennery whites, extra firsts	44.3	39.0	34.6	33.6	34.3	34.6	36.4	41.4	49.8	63.4	70.8	59.2	45.1
Nearby and nearby western hennery whites, firsts	42.8	37.8	32.7	31.9	32.4	33.0	33.8	37.5	42.8	52.2	62.9	57.2	41.4
Nearby gathered whites, firsts to extra firsts	43.7	38.2	33.8	32.8	33.0	33.9	34.6	39.1	45.3	55.4	64.0	58.0	42.7
Nearby whites, undergrades	40.4	35.4	30.6	30.5	30.5	31.4	31.3	34.5	37.9	41.6	48.8	50.5	37.0
Nearby whites, mediums (40-41 lbs. net)	41.0	36.4	33.2	32.0	31.4	33.5	35.3	38.3	44.0				
Nearby pullets	38.6	34.8	31.6	31.0	30.1	31.6	33.7	35.9	39.3	42.9	45.8	47.7	36.9
Nearby "pewees"								35.1	32.4	37.3	40.3	42.3	
Pacific Coast whites, processed extras						40.8	41.6						
Pacific Coast whites, extras	45.9	41.8	38.1	38.3	38.7	40.0	40.2	45.9	54.6	68.4	75.8		
Pacific Coast whites, extra firsts	43.9	40.1	35.9	35.8	36.4	37.8	37.1	42.3	49.9	62.6	70.3	57.3	45.8
Pacific Coast whites, firsts	41.5	38.2	33.8	33.5	33.5			38.4	42.5		63.6		
Pacific Coast, mediums	40.1	35.9	32.0	32.9	33.1	33.6	32.8	35.1	40.4	48.4	47.3		
Pacific Coast, pullets	38.0							27.1	32.1	37.2	37.7		
Pacific Coast whites, shortheld										53.3	51.3	47.5	
Other western and southern gathered whites	39.9	37.7	31.9	31.8	31.6	32.3	32.9	35.8	30.1	47.4	49.8	48.5	38.3
Pacific Coast whites, processed extra firsts							40.5						
Pacific Coast whites, processed mediums							35.0						
Pacific Coast whites,extra, express												64.0	
Pacific Coast whites, extra, freight											73.3	60.0	
Pacific Coast marked mediums												51.2	
Pacific Coast marked pullets												41.9	

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NEW YORK STATE COLLEGE OF AGRICULTURE
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No. 46 JULY, 1927

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm Prices		United States Prices of Food		Cost of living United States[4]	Weekly earnings N. Y. factory workers[5]	Prices of 70 indust'l stocks[6]	Interest rates 4-6 mos. comm'l. paper[7]
		New York[2]	United States[2]	Farm[3]	Retail[3]				
1913	102	97	99	100	103	100		96	115
1914	100	103	101	105	106	103	101	96	99
1915	103	100	101	106	107	105	104	119	71
1916	129	116	119	117	117	118	116	152	71
1917	180	170	180	181	156	142	132	140	98
1918	198	186	206	200	180	174	164	130	121
1919	210	206	215	213	194	199	190	160	112
1920	230	217	214	207	207	200	227	144	153
1921	150	144	119	130	163	174	207	118	135
1922	152	134	124	121	150	170	202	146	92
1923	157	142	137	124	154	173	220	155	102
1924	152	128	140	126	153	173	223	166	81
1925	162	147	154	152	169	178	228	221	83
1926	154	156	142	154	174	176	234	247	88
Nov., 1925	161	165	153	159	173		231	248	84
Dec.	159	159	152	159	171	178	234	250	87
Jan., 1926	159	158	150	157	174		234	252	99
Feb.	158	156	150	156	175		230	255	100
Mar.	154	158	145	154	177		234	239	97
Apr.	154	171	146	158	180		233	232	96
May	155	176	145	161	179		231	233	93
June	155	176	146	161	177	175	234	242	87
July	154	163	143	156	172		232	249	81
Aug.	152	150	140	147	169		233	256	79
Sept.	154	148	140	148	171		236	254	78
Oct.	153	140	134	148	171		237	246	81
Nov.	151	150	135	151	170		235	250	85
Dec.	150	145	133	150	169	176	238	256	87
Jan., 1927	150	142	130	145	171		237	252	96
Feb.	149	142	132	145	171		237	258	95
Mar.	148	142	131	142	172		240	261	90
Apr.	147	147	130	143	172		235	265	93
May	147	167	132	146	172		235	273	94
June			134					275	

(For footnotes see next page.)

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BUSINESS CONDITIONS

There has been a distinct decline in industrial production, a firming of interest rates, a decline in urban employment, and some recessions in prices of industrial commodities.

For the month of June, prices of industrial stocks were 175 per cent above pre-war. They fell from a peak of 277 on June 9, to 270 on June 30.

Hand-to-Mouth Buying

From 1897 to 1913, there was a gradual rise in the price level. This tended to stimulate buying in advance of needs and encouraged the carrying of large stocks of goods.

The rapid rise in prices during the war period further accentuated the tendency to carry heavy stocks. The drastic deflation in 1920, and the gradual decline in prices during the past two years have favored the opposite policy of carrying the minimum amount of goods.

High rents and high wages also tend to discourage buying in advance of needs. Such buying often involves extra handling.

Prompt and dependable transportation also favors the carrying of low stocks.

The fact that business has continued so active with a declining price level, has been attributed to the rapidity of turnover. If one sells goods soon enough, a gradual decline in prices is not very serious. It is very serious for long time investments such as are all farm operations. Most farm products require one to many years for a turnover. City buildings are like investments in calves; some years are required for a turnover of the capital. How well the building industry can prosper on a declining price level will be shown later.

Farm Prices

The average prices for all farm products in the United States have risen four points since April. Most of this advance is attributable to adverse weather conditions. The rise is not wholly due to cotton, as food products have risen four points. The major advances are in the prices of the grains

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(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923 Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February 1927.

[4] Reported by the United States Bureau of Labor Statistics, 1913 = 100. Monthly Labor Review Vol. XXIV, No. 2, p. 168, February 1927.

[5] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[6] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14, base by multiplying by 2.05.

[7] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

and cotton. Hogs and eggs declined. Butter, milk, and beef are now higher in price than are either eggs or hogs. The producers of hogs and poultry products are beginning to feel the effects of higher prices of grain and lower prices of pork and eggs.

The index number of prices paid to New York farmers for May was 67 per cent above pre-war. This is lower than last May because hay, potatoes, eggs, and poultry are considerably cheaper than last year. Milk and butter are higher in price than they were a year ago. Thus far, the weather has been unfavorable for most New York crops. This may affect prices.

NEW YORK MILK SUPPLY

So much has been said about the importance of dairying in the West that the dependence of New York City on New York farms is not realized.

New York State farmers supply more milk and cream than is consumed by New York State. In addition they supply a large quantity of cheese, and considerable quantities of condensed milk and butter.

The article on page 722 shows that 79 per cent of the total milk and cream received in the Metropolitan district comes from New York State. Only 76 per cent of the population of the metropolitan area is in New York State. The total milk and cream from Canada, Pennsylvania, New England, and from the West apparently is not enough to supply the New Jersey part of the metropolitan district. New York State farms supply practically all of the milk and cream for the upstate cities and towns, and considerable quantities for use in New England and in Pennsylvania.

H. A. Ross

AMERICAN vs. EUROPEAN THRIFTS

In Europe, there are so many people in proportion to natural resources that thrift means the saving of things. The American who visits northern Europe is impressed with how carefully they work each patch of land, how carefully they save wood, how much milk is produced per cow, how many cows are kept on an acre. These observations furnish the basis for innumerable speeches on "What Is the Matter with American Farmers?". A favorite theme is how some immigrant made a fortune farming the fence corners, which the short-sighted Americans neglected. Many immigrants attempt this before they learn better.

Because of European tradition, traditions of the previous generations here, and experiences before the war, many farmers now spend a dollars worth of time saving one-half a dollar's worth of things. Because of the rapid change in the relative values of labor and things, there is probably no other single mistake that causes so much loss as does the loss of time. One cannot afford to spend ten dollar's worth of time repairing an old machine, that is not worth ten dollars after the job is done. He cannot afford to spend fifty dollars fencing a small patch of ground that will yield only five dollar's worth of pasture per year. If one can cut a neighbor's field on shares, it does not pay to rake the scatterings in the hay fields.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
June	68.6	38.9	138.9	53.7	90.1	203.9	3.16	16.1	12.98	......	190.1	198.8
July	71.5	37.7	127.7	55.3	89.9	208.7	3.11	15.4	12.96	......	174.6	185.6
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	......	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	......	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	......	126.4	110.6
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	......	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	......	137.0	94.0
1927												
January	64.3	42.6	122.2	58.0	83.6	193.0	2.99	10.6	13.38	......	139.1	97.8
February	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	......	134.1	109.0
March	65.2	43.4	120.9	62.2	86.0	195.1	2.76	12.5	13.48	......	127.0	112.3
April	65.6	43.2	117.2	64.1	85.1	196.1	2.86	12.3	13.26	......	126.6	112.8
May	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	......	146.0	118.9
June	88.9	48.0	130.1	76.3	98.8	204.7	3.23	14.8	13.10	......	191.0	136.0

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	169
1919	242	174	244	171	214	238	195	239	173	183	200	173
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	08	215	139	128
1923	124	104	112	91	130	140	177	215	103	166	121	110
1924	141	119	126	110	141	129	158	216	111	151	125	159
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	......	267	178
1926												
June	101	93	153	83	119	116	137	127	105	......	274	207
July	103	90	146	90	114	125	135	121	108	......	235	202
August	112	95	147	96	121	126	144	129	113	......	158	195
September	104	91	135	90	121	124	132	138	111	......	162	165
October	106	100	139	90	119	118	127	97	113	......	183	130
November	104	103	140	93	117	121	133	91	114	......	236	116
December	110	106	143	93	117	127	134	82	109	......	226	130
1927												
January	110	111	140	95	118	119	133	86	114	......	222	125
February	112	110	138	96	119	115	132	94	114	......	204	131
March	108	108	136	99	122	112	127	101	112	......	190	128
April	106	107	132	100	118	113	131	99	110	......	186	121
May	113	110	137	105	121	117	130	110	108	......	210	122
June	131	115	143	118	131	117	140	117	106	......	275	142

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
	bu.	head	lb.	doz.	lb.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7 12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5 50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102 3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	50.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.20	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
June	169	83	23.9	25.7	39.5	66.74	6.56	9.65	7 56	12.07	31.4	12.80
July	134	82	23.6	25.7	39.1	66.68	6.46	9.47	7.09	11.52	31.9	12.69
August	104	80	22.1	26.4	39 0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97
1927												
January	97	73	20.1	36.9	44.0	66.77	6.45	9.75	6.87	10.65	30.9	10.97
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19
March	100	79	21.3	20.8	43.5	70 18	6.82	10.10	7.41	11.55	31.3	10.89
April	104	80	21.8	20.3	43.4	71.98	7.13	9.90	7.40	11.97	30.4	10.41
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41
June	140	80	20.2	17.8	40.4	74.19	7.08	9.46	7.27	11.95	30.2	8.40

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
June	138	57	203	154	168	134	121	143	159	192	179	179
July	131	58	198	154	171	136	121	141	155	189	182	175
August	132	57	184	153	165	133	117	138	157	196	179	159
September	125	56	180	163	166	134	121	143	163	201	188	156
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163
1927												
January	100	53	188	125	155	141	128	144	149	184	167	156
February	96	54	194	110	161	143	129	149	157	182	168	157
March	92	55	190	97	168	144	129	146	155	186	167	147
April	91	55	190	119	171	146	130	146	146	185	169	137
May	93	56	184	119	170	147	130	142	155	185	169	130
June	114	55	171	107	172	149	130	140	153	190	173	117

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Potatoes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3 52	14.34	206	109	126
1926										
June	88	50	157	77	94	3.60	15.00	225	135	133
July	88	52	149	72	97	3.48	15.30	170	140	129
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	40	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115
1927										
January	86	50	131	71	85	3.24	14.00	150	90	115
February	89	51	132	73	86	3.36	14.40	135	87	123
March	87	52	132	76	88	3.24	14.00	120	95	120
April	90	51	126	78	87	3.18	13.50	120	90	125
May	93	54	130	80	91	3.30	13.50	146	100	124
June	106	59	138	88	106	3.54	14.00	200	115	130

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Potatoes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
June	117	98	154	96	122	154	92	321	138	74
July	116	102	148	92	115	144	96	246	159	74
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65
1927										
January	119	111	132	95	120	138	92	234	111	66
February	125	109	132	97	119	144	95	196	100	70
March	123	111	132	99	124	140	90	176	106	68
April	127	104	126	101	119	139	88	174	87	69
May	127	108	130	101	121	140	86	203	88	70
June	141	116	135	110	138	151	86	286	117	72

NEW YORK

Prices Paid to Producers for Farm Products

As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1 82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
June	28.1	30	36.9	46	2.06	92.00	11.50	6.20	5.70	13.40	34	12.60
July	28.0	32	40.0	45	2.20	93.00	11.50	5.60	5.80	12.30	35	12.60
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61	59.7	52	2.85	95.00	12.00	5.60	5.60	11.80	37	12.10
1927												
January	25.7	48	46.0	51	2.72	92.00	12.40	5.60	5.80	11.50	35	11.60
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10
March	27.0	27	31.3	51	2.65	100.00	12.20	6.00	6.20	12.20	33	11.60
April	27.7	26	30.9	51	2.49	106.00	11.80	6.00	6.30	12.50	33	11.50
May	27.3	26	29.6	50	2.27	109.00	10.90	6.60	6.20	12.90	33	10.70
June	26.6	25	30.1	48		113.00	10.80	6.60	6.80	12.60	31	10.00

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1926												
June	185	150	151	164	193	162	146	113	134	202	170	170
July	184	145	147	167	175	165	141	103	139	187	167	168
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149	121	153	149	168	137	103	129	192	176	165
1927												
January	189	126	116	150	143	171	147	106	139	179	159	156
February	186	125	106	155	149	179	152	111	133	181	164	161
March	190	96	121	165	158	179	146	115	145	189	157	149
April	187	124	137	170	171	188	152	112	138	183	157	147
May	183	137	130	172	191	196	148	117	144	197	165	141
June	175	125	123	171		199	137	120	160	190	155	135

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat —3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
June	34.59	38.65	30.45	36.60	29.04	29.14	31.04	49.72	41.60	63.80	36.12	40.55
July	38.93	39.65	33.13	37.49	30.00	30.31	32.63	51.63	42.38	73.80	37.53	42.58
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96
1927												
January	37.94	37.25	35.30	41.79	34.30	35.70	35.60	50.84	38.70	75.80	38.12	41.82
February	37.85	38.65	34.63	40.68	35.06	36.75	36.00	51.43	42.31	79.80	38.91	42.52
March	36.94	38.65	33.00	40.40	34.63	36.38	35.63	50.55	42.50	76.80	38.57	41.92
April	37.63	35.53	32.60	41.48	35.60	36.18	36.10	52.00	41.90	76.80	38.02	41.75
May	42.73	36.75	38.25	45.05	35.75	36.13	37.00	52.50	43.98	76.80	40.01	44.01
June	45.63	42.25	40.50	43.40	33.94	36.63	37.35	51.93	47.04	74.80	41.86	45.68

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	......	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
June	121	140	111	110	125	117	126	154	127	122	127	127
July	132	150	120	111	128	117	128	160	129	141	133	132
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133
1927												
January	138	123	127	135	132	137	132	147	118	146	129	134
February	138	126	125	128	133	140	133	148	132	153	131	135
March	138	132	124	127	132	140	131	152	133	147	133	134
April	135	127	124	129	138	140	136	155	129	147	132	132
May	149	134	140	138	142	141	141	159	134	147	140	138
June	160	153	147	131	146	147	147	162	143	143	148	144

Of course, if one does not have enough profitable work to keep busy, he will make more money working at five cents per hour than he will if he does nothing. If he spent his time straightening crooked nails, as his grandfather did, he might be better off than if he did nothing. However, he could not trade the nails for many hours of carpenter's labor.

Saving labor does not mean having good machinery scattered around the farm. Orderliness is one of the best means of saving labor. Many persons waste both labor and things by leaving the farm in disorder.

Things are very cheap in terms of labor. It takes a long time to become adjusted to the new relationships. Most farmers should think of their time as worth from one-half a cent to one cent a minute, and follow the American system of saving labor rather than saving things. It is all right for Europe to be thrifty with things. They criticise us for always being in a hurry, but being in a hurry is the result of being thrifty with time.

G. F. Warren and F. A. Pearson

INCREASED SPECIALIZATION IN FARMING

The whole history of American agriculture shows increasing specialization on those products best adapted to the region. There are some regions to which several products are about equally adapted. Such regions are usually diversified. But most regions are specializing in one or two products best adapted to their natural and economic conditions.

Apples were formerly grown in all parts of New York State. Over half of the trees have disappeared in the regions outside of western New York and the Hudson River Valley. Potatoes and other vegetables are increasing on the best soils of Long Island but the growth of such crops in connection with general farming is decreasing. Eggs are being produced in large numbers near the ocean in a way that was formerly unknown.

The increase in scientific knowledge and technical skill favors the production of a few products. Machinery also favors specialization. To equip for a small area of any one crop is too expensive. Improved transportation enlarges the market for the region that has a natural advantage. The farmers are gradually specializing on the product for which their region has the advantage. Some persons still insist that their home region is best for everything, but competition is gradually replacing false patriotism by knowledge.

The agricultural depression is eliminating the regions that are not best for the product and is thus increasing specialization. High handling charges favor the production of home food supplies, but commercial production is rapidly being specialized. Many well-meaning persons think that the trouble with agriculture is lack of diversity. They forget the agricultural history of the past century.

G. F. Warren and F. A. Pearson

SOURCES OF NEW YORK'S MILK SUPPLY

Since January 1, 1927, the Market News Service of the United States Department of Agriculture has been compiling records of receipts of milk, cream, and fresh condensed milk at New York City and the various New York and New Jersey towns and suburbs which make up the metropolitan area. Tables 1 to 3 show the quantities of these products received from different states during the five-months period for which records are now available (January 1 to May 28, 1927). New York State supplied over three-fourths of the milk and cream and seven-eighths of the fresh condensed milk shipped to this market. Expressed as whole milk, New York State furnished 79 per cent of the total supply of milk, cream and fresh condensed milk. Pennsylvania came next with over 10 per cent of each of these commodities. New Jersey shipped about 7 per cent of the milk and 3 per cent of the cream. The latter state is a somewhat more important source of supply than these figures indicate because considerable quantities of milk are trucked from nearby farms to some of the New Jersey towns included in the market.

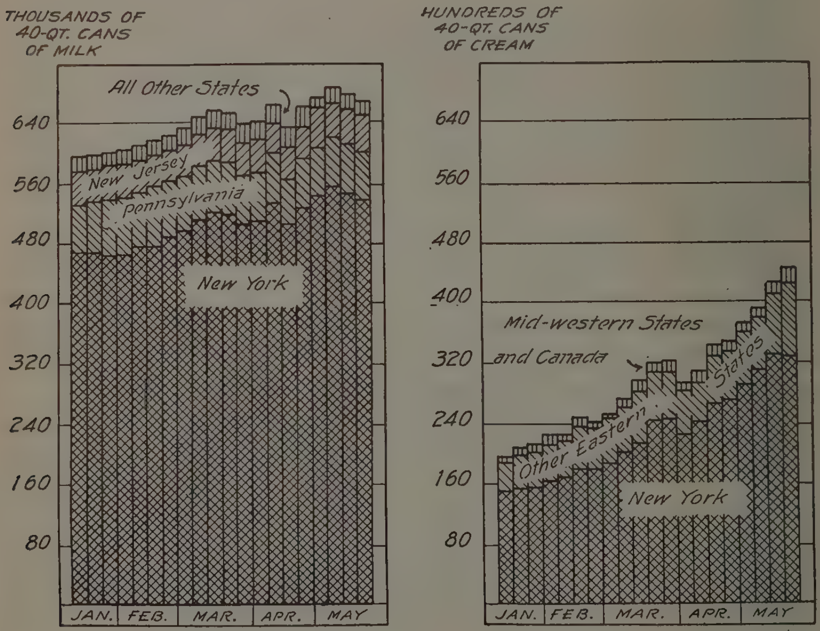

FIGURE 1.—WEEKLY RECEIPTS OF MILK AND CREAM AT THE NEW YORK METROPOLITAN AREA, JANUARY 9, 1927 to MAY 28, 1927.

In spite of the great increase in demand, New York still furnishes over three-fourths of the milk, cream and fresh condensed milk used in this market.

During this period, 23,045 cans of cream were shipped from the midwestern states, approximately one-half of which came from Wisconsin. Western shipments were only about one-third as heavy this year[1] as during

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[1] Spencer, Leland, The New York Milk and Cream Supply Farm Economics No. 30, p. 363, Dec. 1925

TABLE 1.—ORIGIN OF SHIPMENTS OF MILK TO THE NEW YORK METROPOLITAN AREA, JANUARY 1, 1927 to MAY 28, 1927*

(In terms of 40-quart cans)

State	Cans	Per cent
New York	10,613,839	79.1
Pennsylvania	1,428,515	10.7
New Jersey	923,872	6.9
Vermont	279,624	2.1
Connecticut	85,346	0.6
Massachusetts	57,652	0.4
Maryland	30,804	0.2
Total	13,419,652	100.0

*United States Department of Agriculture, Bureau of Agricultural Economics, Market News Service.

the same months in 1925. This is due, in part, to the action of the New York Department of Health in shutting out cream from unapproved sources. Western shipments to other parts of the market outside the jurisdiction of the Health Department were probably curtailed because of the relatively high price of butter which offered a better market to the western creameries than it did when the cream shipments were heaviest. Butter prices during these months were approximately 16 per cent higher than in 1925, while the New York cream price was only about 6 per cent higher than in that year. A relatively low butter price, or high New York cream price would probably tend to increase shipments of cream from the West.

Figure 1 shows the weekly receipts of milk and cream during this period. It should be noted that the scale for the cream chart is ten times as great as the one for milk. This is approximately on a milk-equivalent basis since the average test of milk shipped during these months is about 3.6 per cent and the average test of cream 36.9 per cent.[2]

Although the present New York milk shed supplies far more milk and cream than is consumed during the spring months, it will be noted that shipments of cream from the mid-western states and Canada, actually increased during the last half of May. Not all the imports from Canada are shown here because most of the Canadian milk is handled thru plants in

TABLE 2.—ORIGIN OF SHIPMENTS OF CREAM TO THE NEW YORK METROPOLITAN AREA, JANUARY 1, 1927 to MAY 28, 1927*

(In terms of 40-quart cans)

State	Cans	Per cent
New York	469,374	75.8
Pennsylvania	80,767	13.0
Vermont	23,932	3.9
New Jersey	17,889	2.9
Massachusetts	1,057	0.2
Connecticut	26	
Wisconsin	11,530	1.9
Iowa	7,100	1.1
Indiana	1,190	0.2
Minnesota	1,400	0.2
Ohio	800	0.1
Michigan	625	0.1
Illinois	400	0.1
Canada	3,369	0.5
Total	619,459	100.0

*United States Department of Agriculture, Bureau of Agricultural Economics, Market News Service.

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[2] New York State Department of Farms and Markets Bulletin 180, Statistics Relative to the Dairy Industry in New York State, p. 38, 1924.

TABLE 3.—ORIGIN OF SHIPMENTS OF FRESH CONDENSED MILK TO THE NEW YORK METROPOLITAN AREA, JANUARY 1, 1927 to MAY 28, 1927*
(In terms of 40-quart cans)

State	Cans	Per cent
New York	128,156	88.7
Pennsylvania	16,143	11.1
Indiana	265	0.2
Total	144,564	100.0

*United States Dept. of Agriculture, Bureau of Agricultural Economics, Market News Service.

this country and the shipments are, therefore, shown as originating in New York or Vermont. It appears obvious that price, rather than availability of supplies, is the determining factor in bringing cream from outside the present milk shed during the season of heavy production. Since the western cream is not produced under New York Department of Health inspection and cannot be sold in the city, a price differential is to be expected.

H. A. Ross

RELATION OF JUNE WEATHER CONDITIONS TO THE CORN CROP

May weather conditions have very little to do with corn production or with corn prices in December as was shown in the preceding number of Farm Economics. The May rainfall in the Corn-belt in 1927 was 123 per cent of normal and the temperature 99 per cent of normal.

June weather conditions, on the contrary, have an important influence on the corn crop and hence on the December price of corn. A dry June, followed by a wet July and August is the weather combination that results in the largest corn crop. Drought in all three months results in the smallest corn crop, and a wet June followed by a dry July and August results in the second smallest crop.

A dry, and hence a warm June, permits of frequent cultivation and easy killing of weeds. There is sufficient accumulated moisture in the ground so that corn does not suffer from insufficient rainfall. Corn gets a good start in a dry June. If this good start is followed by wet weather a bumper corn crop results. On the contrary, in a wet June, the crop suffers from lack of cultivation and gets off to a poor start. If this poor start is followed by dry weather, the crop suffers, with a consequent light production and relatively high prices.

TABLE 1.—CORN PRODUCTION AND PRICES IN WET AND IN DRY YEARS, 1890-1925

Season, June, July, August	Number of years	Per cent of normal Crop		Purchasing power Dec. Farm price		Purchasing power Dec. Cash price No. 2 corn Chicago	Per cent of crop merchantable
		United States	6 leading states	United States	6 leading states		
Dry—all months	3	84	80	136	140	131	92
Wet June—Dry July and August	3	92	89	121	120	125	93
Wet June and August—Dry July	7	98	94	104	108	100	101
Wet all months	4	106	111	101	99	112	96
Dry June and July—Wet August	5	100	102	101	100	96	104
Dry August—Wet June and July	3	101	105	88	86	89	101
Wet July—Dry June and August	5	103	104	88	89	90	104
Dry June—Wet July and August	6	112	109	83	78	79	103

E. G. Misner

COSTS OF OPERATING COUNTRY MILK PLANTS

Altho there is a tendency to transfer pasteurizing and bottling operations from country to city, probably one-third or more of the country milk plants in the New York territory do some pasteurizing and perhaps one plant in ten is equipped for bottling. Rising costs of plant operation have made it more important to economize by performing the pasteurizing and bottling processes in plants where large quantities of milk can be collected. Higher freight rates and a greater differential between the rates on milk in cans and milk in bottles have also favored the shipping of milk in cans.

Pasteurizing Plant Costs

Plants that ship pasteurized milk in 40-quart cans perform the same functions as do the plants that ship raw milk in cans[1] and in addition the milk is heated to a temperature of from 142° to 145° Fahrenheit, usually for thirty minutes. There is also additional expense for cooling the milk quickly from this high temperature to 38° or 40° Fahrenheit.

TABLE 1.—COST OF HANDLING 100 POUNDS OF MILK IN COUNTRY PLANTS SHIPPING PASTEURIZED MILK IN CANS, 1925

	Volume of milk handled during the year			
	Less than 4 million pounds	4 to 5 million pounds	Over 5 million pounds	All plants
Number of plants	5	5	8	18
Average volume:				
Pounds per year	2,994,426	4,536,338	7,131,489	5,261,430
Cans per day	97	146	230	170
		Cents per 100 pounds		
Land and building costs:				
Interest[1]	1.92	1.42	1.19	1.36
Depreciation[2]	2.23	1.42	1.06	1.33
Taxes	0.72	1.07	0.90	0.91
Repairs and maintenance	1.74	1.59	1.09	1.31
Insurance	0.80	0.62	0.48	0.57
Rent	0.07	0.02	0.03	0.04
Total land and building costs	7.48	6.14	4.75	5.52
Equipment costs:				
Interest[1]	1.49	0.92	0.72	0.89
Depreciation[2]	3.97	2.45	1.93	2.38
Repairs[3]	2.09	1.31	0.97	1.23
Insurance	0.58	0.38	0.37	0.40
Total equipment costs	8.13	5.06	3.99	4.90
Labor costs[4]	14.14	11.97	10.93	11.69
Supply costs:				
Coal	4.65	3.40	2.53	3.07
Ice	3.02	3.10	1.82	2.32
Cleanser	0.52	0.38	0.27	0.33
Other cleaning material	0.17	0.18	0.21	0.20
Parchment squares	0.33	0.41	0.38	0.38
Miscellaneous supplies	1.72	0.83	0.29	0.65
Total supply costs[1]	10.41	8.30	5.50	6.95
Miscellaneous costs[5]	2.92	3.77	4.03	3.71
Total operating expenses[6]	43.08	35.24	29.20	32.77

[1] Interest was figured at 6 per cent on half the estimated reproductive value of buildings and equipment, and at 6 per cent on the average inventory value of land and supplies.

[2] Depreciation was figured at the following percentages of the reproductive values: frame buildings 4 per cent; brick, hollow tile, concrete tile and concrete buildings 3 per cent; land improvements 4 per cent; all equipment 8 per cent.

[3] The charge for repairs and maintenance includes work done by plant labor as well as supplies, and repairs by outside labor.

[4] Labor on land, on buildings or on equipment is not included, but has been distributed directly.

[5] Miscellaneous expenses include: electric light and power, telephone, superintendents' travelling expenses, and similar items.

[6] Central office expenses for accounting, executive salaries, sanitary control, container costs etc. are not included.

The average cost of handling milk in 18 pasteurizing plants shipping to New York in 1925 was 32.77 cents per 100 pounds (Table 1) or 9.87 cents more than the cost of processing in raw milk plants.[1] This amount included all the direct expenses incurred in connection with the operation of the plants, but not the central office expenses for accounting, executive salaries, sanitary control and the like. The latter were not available for all firms that furnished the plant operating costs. It is estimated that these expenses amount to about 5 cents per 100 pounds.

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[1] Costs of operating plants that ship raw milk in cans are given in "Farm Economics," number 45 page 700 June 1927.

Land and building costs constituted 16.8 per cent; equipment costs, 15.0 per cent; direct labor, 35.7 per cent; supplies, 21.2 per cent; and miscellaneous expenses, 11.3 per cent of the total operating costs.

The volume of milk handled in different plants was the most important factor affecting the costs per 100 pounds. None of the pasteurizing plants, for which figures were obtained, handled a sufficient volume of milk to permit the most efficient use of the buildings and equipment. Moreover, the capacity of any of the raw and pasteurizing plants could have been increased considerably with relatively small expense for alterations to the building, and additional equipment.

In the 5 plants that handled an average of 97 cans per day the average cost was 43.1 cents per 100 pounds. In the 8 plants which handled an average of 230 cans per day the cost was 29.2 cents per 100 pounds, or 13.9 cents less. In the smaller plants it would cost about $388 to handle the milk from a dairy of 15 cows, each having an annual production of 6000 pounds. The cost of handling the same quantity of milk in the larger plants would be $263.

The total operating costs of 18 pasteurizing plants grouped according to the volume of milk handled are given in Table 2.

TABLE 2.—OPERATING COSTS OF PASTEURIZING PLANTS, 1925

Items of cost	Volume of milk handled during the year				
	Less than 4 million pounds	5 to 4 million pounds		Over 5 million pounds	
	Amount	Amount	Ratio to group 1	Amount	Ratio to group 1
Land and buildings	$2241.60	$2785.16	1.24	$3389.52	1.51
Equipment	2433.28	2297.19	.94	2842.64	1.17
Direct labor	4235.52	5429.20	1.28	7795.49	1.84
Supplies	3118.52	3765.50	1.21	3921.22	1.26
Miscellaneous	876.85	1712.93	1.95	2871.09	3.27
Total	$12905.77	$15989.98	1.16	$20819.96	1.61
Average output, pounds	2,994,426	4,536,338	1.51	7,131,489	2.38

The reason for this slower rate of increase in costs is due to the fact that land and building and equipment costs, composed mainly of interest, depreciation, and repairs, (see footnote 1 and 2 of Table 1) bear a definite relation to the valuations of the buildings and equipment. These latter increase much more slowly than does the volume handled by them. In the smallest plants the average valuation of the buildings was $17,710.07, in the medium sized plants $17,579.71, and in the largest plants $18,982.78. The average valuations of equipment were, $14,854.70 in the smallest plants, $13,913.84 in the medium sized, and $17,165.99 in the largest plants.

The direct labor expense likewise increased at a less rapid rate than did volume. With an increase of 138 per cent in the volume (Table 2) there was an increase of only 84 per cent in the cost of direct labor. It will be noted, however, that labor costs increase (with the exception of miscellaneous costs) the most rapidly of any of the important operating costs. This is due, to a considerable degree, to the seasonal fluctuations in the receipts of milk. It is quite difficult to make a close adjustment between the receipts of milk and the amount of labor employed. The amount of labor employed in a plant tends to be governed by the help necessary to handle the milk during the flush season. It is usually some time after the receipts begin to decrease before any help is laid off. In these plants, 12.9 per cent of the annual volume was received in the month of greatest receipts and 5.0 per cent in that of the lightest.

Bottling Plant Costs

In 1925, eighteen per cent of the fluid milk shipped into the metropolitan district was bottled in country plants. The chief purpose in continuing this practice is to supply the outlying districts of the metropolitan area with bottled milk, thus making it unnecessary to truck bottled milk from the large bottling plants in the central parts of the city to these remote sections.

The functions of a bottling plant are the same as those explained above for pasteurizing plants, except that the processes of bottling the milk and washing the bottles returned from the city are added.

The average cost of handling milk in 15 bottling plants shipping to the New York metropolitan area in 1925 was 61.85 cents per 100 pounds or 1.32 cents per quart (Table 3). For the pasteurizing plants that handled 230 cans a day costs averaged 29 cents per 100 pounds; bottling plants that averaged 231 cans a day averaged 69 cents or 40 cents more.

TABLE 3.—COST OF HANDLING 100 POUNDS OF MILK IN COUNTRY PLANTS SHIPPING BOTTLED MILK, 1925

	Volume of milk handled during the year			
	Less than 9 million pounds	9 to 14 million pounds	Over 14 million pounds	All plants
Number of plants	6	5	4	15
Pounds per year	7,178,492	11,012,099	17,504,491	11,209,960
Cans per day	231	355	564	361
	Cents per 100 pounds			
Land and building costs:				
Interest[1]	2.59	1.81	1.13	1.73
Depreciation[2]	3.22	1.97	1.38	2.05
Taxes	0.75	1.03	0.36	0.68
Repairs and maintenance[3]	2.45	2.24	1.65	2.05
Insurance	1.08	0.45	0.43	0.60
Rent	0.04	0.05	0.00	0.02
Total land and building costs	10.13	7.55	4.95	7.13
Equipment costs:				
Interest[1]	1.93	1.70	0.98	1.46
Depreciation[2]	5.14	4.54	2.61	3.89
Repairs[3]	2.36	1.89	2.26	2.16
Insurance	0.54	0.25	0.28	0.34
Total equipment costs	9.97	8.38	6.13	7.85
Labor costs[4]	26.54	24.96	25.23	25.48
Supply costs:				
Coal	4.25	5.05	2.94	3.96
Ice	4.39	1.36	2.17	2.47
Cleanser	0.86	0.60	0.73	0.72
Other cleaning material	0.04	0.17	0.05	0.09
Parchment squares	0.07	0.01	0.01	0.02
Bottle caps and rings	7.99	10.61	5.92	7.99
Miscellaneous supplies	1.40	1.46	1.01	1.26
Total supply costs[1]	19.00	19.26	12.83	16.51
Miscellaneous costs[5]	3.54	6.60	4.36	4.88
Total operating expenses[6]	69.18	66.75	53.50	61.85
Total operating expenses per quart	1.47	1.42	1.14	1.32

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[1] Interest was figured at 6 per cent on half the estimated reproductive value of buildings and equipment, and at 6 per cent on the average inventory value of land and supplies.

[2] Depreciation was figured at the following percentages of the reproductive values: frame buildings 4 per cent; brick, hollow tile, concrete tile and concrete buildings 3 per cent; land improvements 4 per cent; all equipment 8 per cent.

[3] The charge for repairs and maintenance includes work done by plant labor as well as supplies, and repairs by outside labor.

[4] Labor on land, on buildings or on equipment is not included, but has been distributed directly.

[5] Miscellaneous expenses include: electric light and power, telephone, superintendents' travelling expenses, and similar items.

[6] Central office expenses for accounting, executive salaries, sanitary control, container costs etc. are not included.

Land and building costs constituted 11.5 per cent; equipment costs, 12.7 per cent; direct labor, 41.2 per cent; supplies, 26.7 per cent; and miscellaneous expenses, 7.9 per cent of the total operating cost. The average quantity of milk handled by these plants annually was 11.2 million pounds (361 cans or 14,440 quarts daily) or more than double that of the average raw milk or pasteurizing plant in this territory.

The bottling plants, as a group, operated much nearer to their full capacity than was the case in either the raw or pasteurizing plants. In a number of instances milk was trucked in from neighboring plants where the local supplies were insufficient to meet the needs of these plants. As in the pasteurizing plants, the operating cost per 100 pounds of milk is much less in the plants handling a large volume than in those handling a small volume. In the 6 plants having an average of 231 cans daily the cost was 69.2 cents per 100 pounds, while in the 4 plants having an average volume of 564 cans daily the cost was 53.5 cents, or 15.7 cents less. Here again, as in the pasteurizing group, the saving on the handling of the milk from a dairy of 15 cows, each producing 6000 pounds annually, would be considerable. In the smaller plant the cost would be $623., while in the larger plant only $482., or $141. less. It will be seen (Table 3) that the greatest reductions in costs were made in the land and building, and equipment items. The average valuation of the buildings in the group of small plants was $57,686.75, in the medium sized group $64,296.27, and in the large group $63,127.04. The average equipment valuation for the small plants was $46,134.74, for the medium sized group $62,548.94 and for the large plants $57,090.48.

The cost of labor per 100 pounds (see Table 3) changed very little with increased volume of output, especially in the group having the largest average volume. This was because the hours of skilled labor employed increased very nearly as rapidly as the volume increased. Expressed in hours per 100,000 pounds of milk, there was a decline of only 0.7 hour with each increase of 100,000 pounds in volume. This was due to the efficient use of labor made possible by slight fluctuations in the receipts of milk throughout the year. The month of heaviest receipts averaged 10.3 per cent of the total annual receipts and that of lightest receipts 6.7 per cent. Besides these factors in the group of largest average volume, there was included in the labor cost the salaries paid for the operation of refrigerating equipment at two of the plants. This was not the case in the other two groups.

The average operating costs for plants in each of the volume groups are given in Table 4.

TABLE 4.—AVERAGE OPERATING COSTS OF BOTTLING PLANTS, 1925

Items of cost	Volume of milk handled during the year: Less than 9 million pounds	9 to 14 million pounds		Over 14 million pounds	
	Amount	Amount	Ratio to group 1	Amount	Ratio to group 1
Land and buildings	$7273.64	$8316.90	1.14	$8668.73	1.19
Equipment	7155.66	9226.49	1.29	10721.94	1.50
Direct labor	19050.38	27490.68	1.44	44152.85	2.32
Supplies	13637.28	21204.33	1.55	22458.39	1.65
Miscellaneous	2541.26	7274.70	2.86	7618.91	3.00
Total	$49658.22	$73513.10	1.48	$93620.82	1.89
Average output, pounds	7,178,492	11,012,099	1.53	17,504,491	2.44

The average volume of milk handled by the largest plants was 2.44 times that handled by the smallest plants, but the average operating cost was only 1.89 times as great. It will be noticed, however, that as more processes are included in the plant operation, the rate of growth of operating costs becomes more nearly proportional to the volume of output.

C. K. Tucker

THE USE OF THE NEW YORK ROADS

Records of the travel on a number of New York State roads were taken during the summer and fall of 1926. The New York license numbers were taken down and the residence of each owner was ascertained. Further records will be obtained in 1927. The motor vehicles were classified into three groups: (a) those owned outside the state; (b) those owned in other counties of New York; and, (c) those owned within the county where the traffic record was taken.

County-owned motor vehicles were sub-classified into five groups—city, incorporated village, unincorporated village, open country not farm, and farm.

Motor vehicles owned within the county also were sub-classified as owned within the township where the traffic record was taken, or owned in the other townships of the county.

On ten roads, the motor vehicles owned in other counties of the state were classified into those owned in cities, those owned in incorporated villages, and those owned outside of incorporated places.

Dealers' cars, taxis, buses, and motorcycles were separated from the other motor vehicle traffic. Horse-drawn vehicles also were classified separately.

In tables 5 to 8, the roads have been given reference numbers. Footnotes give the location of each road and the days, dates, and hours on which a record of the traffic on such road was taken.

State and County Travel

TABLE 1.—TRAVEL ON 29 NEW YORK ROADS (Table 5)

Origin of travel	Per cent of total
Out-of-state travel	14.0
From other counties of New York	48.0
Within the county	35.0
Miscellaneous	3.0

The average out-of-state travel on 29 roads was 14 per cent of the total travel.

On four county and town roads, the out-of-state travel varied from 1 to 5 per cent of the total.

On two dirt roads, the out-of-state travel was 3 per cent and 9 per cent of the total traffic.

The average travel from other counties of the state was 48 per cent of the total travel.

On three county and town roads, the travel originating in other counties of the state was over one-third of the total traffic; and on one, 7 per cent.

On two dirt roads, the travel from other counties of the state was 23 per cent and 51 per cent of the total.

On these 29 roads, 4 per cent of the total travel was farm travel originating within the county.

On four county and town roads, farm travel originating within the county varies from 1 per cent to 11 per cent of the total.

On two dirt roads, 25 per cent and 2 per cent of the total traffic was farm travel originating within the county.

Travel at Grade Railroad Crossings

The average travel originating within the township at 14 grade crossings was 13 per cent of the total travel. Three-fourths of the township travel was from cities and incorporated villages within the township.

At the Lehigh Valley Railroad main line grade crossing on State Road Number 5, two and one-half miles southeast of Geneva in Fayette township, Seneca County, less than 2 per cent of the total was township travel.

At the Lehigh Valley main line grade crossing on State Road Number 13, Cayuta township, Schuyler County, only one per cent of the total traffic was township motor vehicle travel.

TABLE 2.—TRAVEL AT 14 GRADE CROSSINGS (Table 8)

Travel originating within the township varied from 1 per cent to 38 per cent of the total and averaged 13 per cent.

Travel originating within the county varied from 6 per cent to 75 per cent of the total and averaged 40 per cent.

In Horseheads township, Chemung County, the Erie Railroad main line crosses the road from Horseheads station to Elmira at grade, and crosses State Road Number 17 twice at grade. At two of these grade crossings, township travel was less than 10 per cent of the total, and at one, less than 20 per cent of the total travel.

The county motor vehicle travel was 39.5 per cent of the total at these 14 grade crossings.

At the Lehigh Valley Railroad grade crossing, Cayuta township, Schuyler County, and at the Delaware and Hudson Railroad (Cherry Valley branch) grade crossing on State Road Number 7, Sharon township, Schoharie County, less than 8 per cent of the traffic was motor vehicle travel originating within the county.

At five of these fourteen grade crossings, the county traffic was less than 25 per cent of the total.

The present law provides that twenty-five per cent of the cost of elimination of a grade railway crossing shall be paid by the state, twenty-five per cent by the city, township, or village, and fifty per cent by the railroad company.

A proposed amendment to the Constitution to be voted on at the general election, November, 1927, changes this basis. Under this proposal "Of the expense of a grade crossing elimination fifty per centum shall be borne by the railroad company. The remaining fifty per centum shall be borne by the state and the county in which the crossing is located or by the state and the city in which it is located if the city contain two or more counties; except that if so provided by law, such remaining fifty per centum of the expense of elimination of a grade crossing in any other city shall be borne by the state, the county, and such city. The proportions of the expense of a grade crossing elimination to be borne by the state and county, state and city, or state, county, and city, under the provisions of this section, shall be determined by or pursuant to law."

It is evident that care and judgment must be used in adopting legislation concerning the elimination of grade railway crossings, in order to avoid injustice to local communities in apportioning the cost, especially in the case of the poorer counties.

City and Rural Travel

TABLE 3.—TRAVEL ON 29 NEW YORK ROADS (Table 5)

Origin of travel	Per cent of total travel
Out-of-state travel	14.0
Farms within the county	4.0
Unincorporated places, except farm, within the county	5.0
All other state travel	77.0

The average travel from cities and incorporated villages within the state on ten roads was 66 per cent of the total traffic.

Travel from other states and travel from cities and incorporated villages within the state made up 83 per cent of the total travel.

Travel from places within the state not incorporated was 14 per cent of the total.

New York roads have ceased to be local. Even the dirt roads are extensively used for interurban travel. The county and town roads are primarily interstate and interurban roads.

Formerly all roads were chiefly local and were locally supported. Today there are very few local roads.

TABLE 4.—TRAVEL ON 10 NEW YORK ROADS (Tables 6 and 7)

Origin of travel	Per cent of total travel
Out-of-state travel	17.0
Cities within the state	49.0
Incorporated villages within the state	17.0
Unincorporated places within the state	14.0
Miscellaneous (mostly city)	3.0

Travel Originating in the Township Compared with Travel Originating in Counties Having Large Cities

Travel originating in New York City, Brooklyn, and the five counties of Westchester, Erie, Monroe, Onondaga, and Albany, was greater than the local township travel on five of the nine state roads studied, Table 9.

Township travel makes up a larger percentage of the total travel where incorporated places are located within the township, or where residents of the township are employed in industrial or business establishments located within driving distance, than it does where the township is in a rural section.

On four of these ten roads, one in Seneca county, one in Schuyler county and two in Rensselaer county, the per cent of travel originating in New York City was greater than the local township travel.

On two of these roads the travel originating in Westchester county was greater than the township travel, and on two roads was nearly equal to it.

Travel from Erie county was greater than the township travel on two of these ten roads, and nearly equal to it on two.

Travel from Monroe county was greater than the township travel on two roads, and equal to it on three.

Travel from Onondaga county was greater than the township travel on three roads, and equal to it on one.

Travel from Albany county was equal to the township travel on one road in Seneca county and greater than it on two roads in Rensselaer county.

TABLE 5.—PERCENTAGE DISTRIBUTION OF THE TRAFFIC ON 29 NEW YORK ROADS CLASSIFIED AS—OUT-OF-STATE; OTHER COUNTIES OF NEW YORK; COUNTY; HORSE; AND OTHER

Each line gives the analysis of the traffic for 4-10 hours. See footnotes.

County	Road Reference Number*	Total Traffic Number	Out-of-State Per cent	Other Counties of New York Per cent	County						Horse Per cent	Dealer, Taxi, Bus, Motorcycle Per cent
					City Per cent	Incorporated Village Per cent	Unincorporated Village Per cent	Open country not farm Per cent	Farm Per cent	Not located Per cent		
State Roads												
Wayne	1	934	7.4	55.7	—	10.7	4.8	6.8	12.4	0.4	0.5	1.3
	2	407	2.7	40.3	—	14.3	6.1	10.8	18.4	1.0	5.2	1.2
	4	920	11.2	53.3	—	22.8	2.3	2.2	4.8	0.1	0.2	3.1
Seneca	5	2028	31.9	54.1	—	8.5	0.2	0.7	1.4	0.8	0.2	2.2
		1310	19.4	53.7	—	18.0	0.6	1.7	2.1	1.5	1.1	1.9
	6	580	19.0	59.8	—	4.0	2.2	4.1	6.4	2.2	—	2.3
		656	10.2	57.9	—	7.3	4.3	5.9	11.0	1.8	0.2	1.4
	7	519	22.8	51.1	—	5.4	1.7	4.0	9.1	1.9	1.0	3.0
		414	13.3	53.9	—	8.9	3.1	5.2	6.5	2.1	1.4	5.6
	8	315	14.9	65.4	—	4.9	0.6	0.9	8.9	0.9	0.6	2.9
		231	9.5	64.5	—	4.4	1.7	2.6	10.4	1.7	3.5	1.7
	9	326	8.9	67.4	—	7.1	0.6	0.6	8.9	2.1	0.6	3.8
Tompkins	14	348	5.5	43.4	11.2	16.2	3.7	6.9	6.6	3.7	0.2	2.6
		307	4.6	40.7	13.7	12.0	4.9	6.2	6.8	5.9	1.3	3.9
Schuyler	16	2136	11.7	81.4	—	2.4	0.1	0.6	1.3	0.9	0.3	1.3
		529	9.3	79.8	—	3.2	0.2	0.4	0.8	2.5	1.8	2.0
Chemung	17	1204	15.2	46.0	22.6	7.8	0.8	2.3	2.3	0.4	0.3	2.2
		643	13.1	41.8	17.6	13.5	1.1	5.4	3.3	1.2	1.6	1.4
	18	2263	13.3	42.3	31.2	6.1	0.5	2.1	1.9	0.8	0.1	1.7
		1546	11.8	44.0	26.3	6.6	0.9	3.6	3.1	1.2	0.6	1.9
	19	1409	9.9	33.4	41.7	7.8	0.4	2.1	1.6	1.0	0.2	1.9
		1123	9.2	38.6	34.0	6.7	0.5	4.2	2.8	1.4	0.4	2.2
Broome	20	2024	8.6	16.7	31.5	28.8	4.5	3.6	1.5	1.7	0.1	3.0
		1449	6.3	16.4	28.6	33.3	4.1	4.9	1.3	2.3	0.3	2.5
		1159	7.5	16.7	29.8	30.6	4.2	3.8	3.1	0.9	0.3	3.1
Otsego	21	301	14.0	38.2	27.2	4.0	1.6	1.0	7.0	2.7	0.3	4.0
	22	196	3.1	40.8	33.7	7.1	2.6	2.0	10.2	—	—	0.5
	23	828	5.3	37.2	25.6	7.2	6.3	5.7	8.6	0.1	0.2	3.8
		656	7.6	38.3	21.6	6.9	6.6	5.8	10.2	—	0.3	2.7
	24	394	2.5	34.5	28.2	9.9	5.6	6.1	9.1	—	—	4.1
		317	4.7	35.0	27.4	9.5	5.7	6.3	9.8	—	—	1.6
Schoharie	26	492	28.5	60.6	—	3.1	0.3	3.3	1.0	—	0.2	3.0
Albany	27	2147	9.0	54.5	25.3	2.9	2.4	1.5	0.7	0.2	0.3	3.2
	28	1247	18.6	49.6	21.5	1.7	2.6	1.7	1.8	0.4	—	2.1
		1259	21.0	42.0	19.5	4.5	3.9	3.4	1.2	0.6	0.8	3.1
Rensselaer	29	1610	27.1	54.3	6.6	3.5	0.9	1.1	1.9	0.4	0.3	3.9
		2024	25.6	57.9	6.7	4.0	0.3	1.7	0.4	0.2	0.1	3.0
	30	820	17.6	66.4	8.6	1.6	0.4	0.6	1.5	0.2	0.2	2.8
		1078	11.5	73.6	8.1	1.7	0.4	1.4	0.3	0.3	0.2	2.4
County and town road												
Tompkins	10	151	5.3	66.9	2.0	2.6	11.3	7.9	0.7	—	2.6	0.7
	11	86	4.6	59.3	3.5	1.2	11.6	4.6	1.2	—	12.8	1.2
	13	237	1.3	34.6	15.2	15.2	5.9	9.3	10.9	4.6	0.9	2.1
		217	1.8	34.1	12.9	8.3	9.7	10.1	7.4	6.0	6.0	3.7
	15	132	0.8	7.6	38.6	5.3	3.1	18.9	8.3	—	16.6	0.8
Dirt Roads												
Wayne	3	118	2.5	22.9	—	11.0	5.1	14.4	24.6	2.5	17.0	—
Tompkins	12	105	9.5	51.4	2.9	3.8	12.4	7.6	1.9	—	10.5	—
Average for 29 roads		39195	13.9	47.8	15.9	9.6	2.2	3.1	3.4	1.0	0.6	2.5

*—Road 1: State Road Number 3, Rochester–Oswego, at junction with State Road Number 14, Alton; Sodus township, Wayne County; Tuesday, September 28, 1926, 8:00 a. m. to 5:00 p. m.

Road 2: State Road Number 14, Alton–Geneva, at junction with State Road Number 3, Alton; one-half mile north of New York Central Railroad, grade crossing; Sodus township, Wayne County; Tuesday, September 28, 1926, 8:00 a. m. to 5:00 p. m.

Road 3: Dirt Road going north to farms from corner at Alton Post Office; Sodus township, Wayne County; Tuesday, September 28, 1926, 8:00 a. m. to 5:00 p. m.

Road 4: State Road Number 31, Newark–Lyons, two miles west of Lyons; Lyons township, Wayne County; Monday, September 27, 1926, 8:00 a. m. to 5:30 p. m.

Road 5: State Road Number 5 at Lehigh Valley Railroad (main line) grade crossing two and one-half miles southeast of Geneva; Fayette township, Seneca County; Friday, August 27, 1926, 9:00 a. m. to 7:00 p. m. and Saturday, September 25, 1926, 9:00 a. m. to 5:00 p. m.

Road 6: Geneva–McDougall Road at junction with State Road Number 5 and near Lehigh Valley Railroad (main line) overhead crossing two and one-half miles southeast of Geneva; Fayette township, Seneca County; Wednesday, September 8, 1926, 10:00 a. m. to 6:00 p. m., and Saturday, September 25, 1926, 9:00 a. m. to 5:00 p. m.

Road 7: State Road Number 15, Waterloo–Ithaca, one mile north of Romulus at Lehigh Valley Railroad (Ithaca branch) grade crossing; Varick township, Seneca County; Thursday, September 16, 1926, 9:00 a. m. to 5:30 p. m. and Thursday, September 30, 1926, 9:00 a. m. to 5:30 p. m.

TABLE 6.—PERCENTAGE DISTRIBUTION OF THE TRAFFIC ON TEN NEW YORK ROADS CLASSIFIED AS—OUT-OF-STATE; OTHER COUNTIES OF NEW YORK—CITY, INCORPORATED VILLAGE, NOT INCORPORATED; COUNTY; HORSE; AND OTHER

				Other Counties of New York			County							
County	Road Reference Number*	Total Traffic Number	Out-of-State Per cent	City Per cent	Incorporated Village Per cent	Not Incorporated Per cent	City Per cent	Incorporated Village Per cent	Unincorporated Village Per cent	Open country not farm Per cent	Farm Per cent	Not Located Per cent	Horse Per cent	Dealer, Taxi, Bus, Motorcycle Per cent
State roads														
Seneca	5	2028	31.9	40.6	7.9	5.6	—	8.5	0.2	0.7	1.4	0.8	0.2	2.2
		1310	19.4	37.6	9.8	6.3	—	18.0	0.6	1.7	2.1	1.5	1.1	1.9
	6	580	19.0	45.0	7.2	7.6	—	4.0	2.2	4.1	6.4	2.2	—	2.3
		656	10.2	42.5	9.0	6.4	—	7.3	4.3	5.9	11.0	1.8	0.2	1.4
Tompkins	14	348	5.5	21.0	13.2	9.2	11.2	16.2	3.7	6.9	6.6	3.7	0.2	2.6
		307	4.6	17.6	12.7	10.4	13.7	12.0	4.9	6.2	6.8	5.9	1.3	3.9
Schuyler	16	2136	11.7	52.8	14.6	14.0	—	2.4	0.1	0.6	1.3	0.9	0.3	1.3
		529	9.3	56.7	10.6	12.5	—	3.2	0.2	0.4	0.8	2.5	1.8	2.0
Chemung	17	1204	15.2	26.6	10.1	9.3	22.6	7.8	0.8	2.3	2.3	0.4	0.3	2.2
		643	13.1	24.3	11.0	6.5	17.6	13.5	1.1	5.4	3.3	1.2	1.6	1.4
	18	2263	13.3	25.3	10.0	7.0	31.2	6.1	0.5	2.1	1.9	0.8	0.1	1.7
		1546	11.8	26.5	10.7	6.8	26.3	6.6	0.9	3.6	3.1	1.2	0.6	1.9
	19	1409	9.9	20.1	8.3	5.0	41.7	7.8	0.4	2.1	1.6	1.0	0.2	1.9
		1123	9.2	23.7	8.8	6.1	34.0	6.7	0.5	4.2	2.8	1.4	0.4	2.2
Rensselaer	29	1610	27.1	37.5	8.4	8.4	6.6	3.5	0.9	1.1	1.9	0.4	0.3	3.9
		2024	25.6	40.6	8.9	8.4	6.7	4.0	0.3	1.7	0.4	0.2	0.1	3.0
	30	820	17.6	46.2	11.3	8.9	8.6	1.6	0.4	0.6	1.5	0.2	0.2	2.8
		1078	11.5	49.6	13.8	10.2	8.1	1.7	0.4	1.4	0.3	0.3	0.2	2.4
County and town roads														
Tompkins	13	237	1.3	17.3	9.3	8.0	15.2	15.2	5.9	9.3	10.9	4.6	0.9	2.1
		217	1.8	13.4	11.0	9.7	12.9	8.3	9.7	10.1	7.4	6.0	6.0	3.7
Average for 10 roads		22068	16.5	35.5	10.2	8.1	13.7	6.6	0.9	2.3	2.4	1.1	0.5	2.2

*For the description of roads see footnote, Table 5.

Footnotes to Table 5 continued

Road 8: Lodi–Watkins Road, four miles south of Lodi, at Lehigh Valley Railroad (main line) grade crossing; Lodi township, Seneca County; Thursday, September 30, 1926, 10:00 a. m. to 5:00 p. m. and Saturday, October 31, 1926, 9:30 a. m. to 5:30 p. m.

Road 9: State Road Number 15, Waterloo–Ithaca, two miles north of Trumansburg; Covert township; Seneca County; Thursday, September 9, 1926, 11:00 a. m. to 6:00 p. m.

Road 10: Peruville–McLean–Cortland Road, at McLean; Groton township, Tompkins County; Tuesday, August 31, 1926, 9:00 a. m. to 5:00 p. m.

Road 11: Road south from McLean past McLean Station Lehigh Valley Railroad, grade crossing; Groton township, Tompkins County; Tuesday, August 31, 1926, 9:00 a. m. to 5:00 p. m.

Road 12: Dirt Road north from McLean to farms, Groton township, Tompkins County; Tuesday, August 31, 1926, 9:00 a. m. to 5:00 p. m. Macadam for three-fourths of a mile.

Road 13: McLean–South Lansing Road at intersection with State Road Number 26 at Peruville school; Groton township, Tompkins County; Wednesday, August 18, 1926, 10:30 a. m. to 6:30 p. m. and Friday, September 10, 1926, 10:00 a. m. to 6:00 p. m.

Road 14: State Road Number 26, at intersection with McLean–South Lansing Road at Peruville school; Groton township, Tompkins County; Wednesday, August 18, 1926, 10:30 a. m. to 6:30 p. m. and Friday, September 10, 1926, 10:00 a. m. to 6:00 p. m.

Road 15: Ithaca–Ellis Road, three-fourths of a mile east of Lehigh Valley Railroad (Elmira-Cortland branch) grade crossing; Ithaca township, Tompkins County; Wednesday, September 1, 1926, 8:00 a. m. to 6:00 p. m.

Road 16: State Road Number 13 at Lehigh Valley Railroad grade crossing; Cayuta township, Schuyler County; Sunday, August 29, 1926, 8:00 a. m. to 6:30 p. m. and Friday, October 22, 1926, 8:00 a. m. to 6:00 p. m.

Road 17: State Road Number 17 at Horseheads Station, Erie Railroad (main line) grade crossing; Horseheads township, Chemung County; Sunday, October 3, 1926, 9:00 a. m. to 5:00 p. m. and Saturday, October 23, 1926, 8:00 a. m. to 5:00 p. m.

Road 18: State Road Number 17 near Erie Railroad (main line) grade crossing three-fourths of a mile west of Horseheads Station; Horseheads township, Chemung County; Sunday October 3, 1926, 9:00 a. m. to 5:00 p. m. and Saturday, October 23, 1926, 8:00 a. m. to 5:00 p. m.

Road 19: Road going south to Elmira at junction with State Road Number 17 immediately west of Horseheads Station, Erie Railroad; grade crossing three-fourths of a mile south of Horseheads Station; Horseheads township, Chemung County; Sunday, October 3, 1926, 9:00 a. m. to 5:00 p. m. and Saturday, October 23, 1926, 8:00 a. m. to 5:00 p. m.

Road 20: Endicott–Johnson City Road near Erie Railroad (main line) grade crossing; Union township, Broome County; Monday, October 4, 1926, 8:00 a. m. to 6:00 p. m.; Thursday, October 14, 1926, 1:00 p. m. to 6:00 p. m.; Friday, October 15, 1926, 8:00 a. m. to 3:00 p. m.

TABLE 7.—PERCENTAGE DISTRIBUTION OF THE TRAFFIC ON TEN NEW YORK ROADS CLASSIFIED AS, OUT-OF-STATE; NEW YORK STATE—CITY, INCORPORATED VILLAGE, NOT INCORPORATED; HORSE; AND OTHER

				New York State					
County	Road Reference Number*	Total Traffic Number	Out-of-State Per cent	City Per cent	Incorporated Village Per cent	Not Incorporated Per cent	Not Located Per cent	Horse Per cent	Dealer, Taxi, Bus, Motorcycle Per cent
State roads									
Seneca	5	2028	31.9	40.6	16.3	7.9	0.8	0.2	2.2
		1310	19.4	37.6	27.8	10.7	1.5	1.1	1.9
	6	580	19.0	45.0	11.2	20.3	2.2	—	2.3
		656	10.2	42.5	16.3	27.6	1.8	0.2	1.4
Tompkins	14	348	5.5	32.2	29.4	26.4	3.7	0.2	2.6
		307	4.6	31.3	24.7	28.3	5.9	1.3	3.9
Schuyler	16	2136	11.7	52.8	17.0	16.0	0.9	0.3	1.3
		529	9.3	56.7	13.8	13.9	2.5	1.8	2.0
Chemung	17	1204	15.2	49.2	17.9	14.7	0.4	0.3	2.2
		643	13.1	41.9	24.5	16.3	1.2	1.6	1.4
	18	2263	13.3	56.5	16.1	11.5	0.8	0.1	1.7
		1546	11.8	52.8	17.3	14.4	1.2	0.6	1.9
	19	1409	9.9	61.8	16.1	9.1	1.0	0.2	1.9
		1123	9.2	57.7	15.5	13.6	1.4	0.4	2.2
Rensselaer	29	1610	27.1	44.1	11.9	12.3	0.4	0.3	3.9
		2024	25.6	47.3	12.9	10.8	0.2	0.1	3.0
	30	820	17.6	54.8	12.9	11.4	0.2	0.2	2.8
		1078	11.5	57.7	15.5	12.3	0.3	0.2	2.4
County and town roads									
Tompkins	13	237	1.3	32.5	24.5	34.1	4.6	0.9	2.1
		217	1.8	26.3	19.3	36.9	6.0	6.0	3.7
Average for 10 roads		22068	16.5	49.1	16.8	13.8	1.1	0.5	2.2

*For the description of roads see footnote, Table 5.

Footnotes to Table 5 continued

Road 21: State Road Number 9, Oneonta–Sidney, at junction with State Road Number 23, one-half mile north of Delaware and Hudson (main line) grade crossing; Oneonta township, Otsego County; Wednesday, October 13, 1926, 10:00 a. m. to 2:00 p. m.

Road 22: State Road Number 23, Oneonta–Morris at junction with State Road Number 9, two miles west of Oneonta; Oneonta township, Otsego County; Wednesday, October 13, 1926, 10:00 a.m. to 2:00 p.m.

Road 23: State Road Number 9, Oneonta–Cobleskill at junction with State Road Number 28, near Colliersville, Milford township, Otsego County; Tuesday, October 5, 1926, 9:00 a. m. to 5:00 p. m. and Wednesday, October 13, 1926, 8:00 a. m. to 5:00 p. m.

Road 24: State Road Number 28, Colliersville–Springfield Center at junction with State Road Number 9 near Colliersville; Milford township, Otsego County; Tuesday, October 5, 1926, 9:00 a. m. to 5:00 p. m. and Wednesday, October 13, 1926, 8:00 a. m. to 5:00 p. m.

Road 25: State Road Number 9, near Cooperstown junction and Delaware and Hudson Railroad (Cooperstown branch) grade crossing; Milford township, Otsego County; Tuesday, October 5, 1926, 9:00 a. m. to 5:00 p. m.; Wednesday, October 13, 1926, 8:00 a. m. to 5:00 p. m.

Road 26: State Road Number 7, Cherry Valley–Sharon Springs, five miles east of Cherry Valley, at Delaware and Hudson Railroad (Cherry Valley branch) grade crossing; Sharon township, Schoharie County; Wednesday, October 6, 1926, 10:00 a. m. to 5:00 p. m.

Road 27: State Road Number 5, Schenectady–Albany, three miles west of Albany, near Stop 24, Albany Schenectady Electric Railroad; Colonie township, Albany County; Thursday, October 7, 1926, 8:00 a. m. to 5:30 p. m.

Road 28: State Road Number 10, Albany–New York, five miles south of Albany, near New York Central Railroad underpass crossing; Bethlehem township, Albany County; Sunday, October 10, 1926, 8:00 a. m. to 5:30 p. m. and Monday, October 11, 1926, 8:00 a. m. to 5:00 p. m.

Road 29: State Road Number 5, Albany–Pittsfield, at junction with State Road Number 6; Schodack township, Rensselaer County; Friday, October 8, 1926, 8:00 a. m. to 5:00 p. m. and Saturday, October 9, 1926, 8:00 a. m. to 5:00 p. m.

Road 30: State Road Number 6, Albany–New York, at junction with State Road Number 5; Schodack township, Rensselaer County; Friday, October 8, 1926, 8:00 a. m. to 5:00 p. m. and Saturday, October 9, 1926, 8:00 a. m. to 5:00 p. m.

TABLE 8.—PERCENTAGE DISTRIBUTION OF THE COUNTY MOTOR VEHICLE TRAFFIC ON 30 NEW YORK ROADS

CLASSIFIED AS—OWNED WITHIN THE TOWNSHIP WHERE THE TRAFFIC TALLY WAS TAKEN; OR, OWNED IN THE OTHER TOWNSHIPS OF THE COUNTY

County	Road Reference Number*	Total Traffic Number	All Traffic Except County Per cent	Total County Motor Vehicle Traffic Per cent	County Motor Vehicles										
					Township					Other Townships of county					
					City Per cent	Incorporated Village Per cent	Unincorporated Village Per cent	Open country not farm Per cent	Farm Per cent	City Per cent	Incorporated Village Per cent	Unincorporated Village Per cent	Open country not farm Per cent	Farm Per cent	Not located Per cent
State roads at grade railway crossings															
Wayne	2	407	49.4	50.6	—	3.4	4.2	6.9	14.0	—	10.9	1.9	3.9	4.4	1.0
Seneca	5	2028	88.4	11.6	—	0.2	—	0.3	0.5	—	8.5	0.2	0.3	0.8	0.8
		1310	76.1	23.8	—	—	0.2	0.8	0.5	—	18.0	0.5	0.8	1.5	1.5
	7	519	77.9	22.1	—	—	0.2	1.9	3.1	—	5.4	1.5	2.1	6.0	1.9
		414	74.2	25.8	—	—	—	1.9	2.2	—	8.9	3.2	3.2	4.3	2.1
	8	315	83.8	16.2	—	1.9	—	—	6.7	—	2.9	0.6	1.0	2.2	0.9
		231	79.2	20.8	—	1.3	0.9	0.4	8.7	—	3.1	0.8	2.2	1.7	1.7
Schuyler	16	2136	94.7	5.3	—	—	—	0.2	0.1	—	2.4	0.1	0.4	1.2	0.9
		529	92.9	7.1	—	—	—	0.4	0.6	—	3.2	0.2	—	0.2	2.5
Chemung	17	1204	63.8	36.2	—	6.4	0.2	1.1	0.3	22.6	1.4	0.6	1.2	2.0	0.4
		643	57.9	42.1	—	13.5	—	3.1	0.5	17.6	—	1.1	2.3	2.8	1.2
	18	2263	57.4	42.6	—	5.1	0.1	0.7	0.2	31.2	1.0	0.4	1.4	1.7	0.8
		1546	58.3	41.7	—	6.1	—	1.5	0.4	26.3	0.5	0.9	2.1	2.7	1.2
	19	1409	45.4	54.6	—	6.3	0.1	0.7	0.1	41.7	1.5	0.3	1.4	1.5	1.0
		1123	50.4	49.6	—	6.0	—	1.7	0.3	34.0	0.7	0.5	2.5	2.5	1.4
Broome	20	2024	28.4	71.6	—	27.9	3.6	1.9	0.4	31.5	0.9	0.9	1.7	1.1	1.7
		1449	25.5	74.5	—	32.5	3.2	2.4	0.2	28.6	0.8	0.9	2.5	1.1	2.3
		1159	27.6	72.4	—	29.6	3.1	2.0	1.3	29.8	1.0	1.1	1.8	1.8	0.9
Otsego	21	301	56.5	43.5	27.2	—	—	1.0	4.3	—	4.0	1.6	—	2.7	2.7
	25	434	51.4	48.6	—	0.2	2.3	1.9	2.3	23.3	4.6	4.6	3.4	5.8	0.2
		339	56.1	43.9	—	0.2	4.1	1.8	2.1	16.2	4.1	3.4	3.5	8.5	—
Schoharie	26	492	92.3	7.7	—	2.0	0.3	3.3	1.0	—	1.1	—	—	—	—
County and town roads at grade railway crossings															
Tompkins	11	86	77.8	22.2	—	1.2	11.6	3.5	1.2	3.5	—	—	1.2	—	—
	15	132	25.8	74.2	38.6	—	—	9.8	0.8	—	5.3	3.1	9.1	7.5	—
Average at 14 grade crossings		22493	60.5	39.5	0.6	8.6	1.0	1.4	1.1	17.9	3.4	0.8	1.5	2.0	1.2
State roads without grade crossings															
Wayne	1	934	64.9	35.1	—	4.0	3.2	4.0	7.5	—	6.7	1.6	2.8	4.9	0.4
	4	920	67.8	32.2	—	8.0	—	0.1	1.3	—	14.8	2.3	2.1	3.5	0.1
Seneca	6	580	81.1	19.0	—	0.2	0.2	1.9	3.6	—	3.8	2.1	2.2	2.8	2.2
		656	69.7	30.3	—	—	—	2.0	5.2	—	7.3	4.2	4.0	5.8	1.8
	9	326	80.7	19.3	—	5.2	0.6	0.3	7.7	—	1.9	—	0.3	1.2	2.1
Tompkins	14	348	51.7	48.3	—	13.3	2.0	6.3	2.0	11.2	2.9	1.7	0.6	4.6	3.7
		307	50.5	49.5	—	8.5	3.6	3.6	0.9	13.7	3.5	1.3	2.6	5.9	5.9
Otsego	22	196	44.4	55.6	32.7	—	—	0.5	4.1	1.0	7.1	2.6	1.5	6.1	—
	23	828	46.5	53.5	—	1.2	3.0	2.0	3.1	25.6	6.0	3.3	3.7	5.5	0.1
		656	48.9	51.1	—	1.2	4.3	1.4	2.9	21.6	5.7	2.3	4.4	7.3	—
	24	394	41.1	58.9	—	2.3	3.8	2.0	4.1	28.2	7.6	1.8	4.1	5.0	—
		317	41.3	58.7	—	2.2	4.4	0.9	3.8	27.4	7.3	1.3	5.4	6.0	—
Albany	27	2147	67.0	33.0	0.1	2.7	1.6	1.2	0.6	35.2	0.2	0.8	0.3	0.1	0.2
	28	1247	70.3	29.7	20.7	0.2	1.3	1.1	1.1	0.8	1.5	1.3	0.6	0.7	0.4
		1259	66.9	33.1	18.9	—	1.5	2.3	0.6	0.6	4.5	2.4	1.1	0.6	0.6
Rensselaer	29	1610	85.6	14.4	—	0.2	0.1	0.1	0.2	6.6	3.3	0.8	1.0	1.7	0.4
		2024	86.7	13.3	—	0.4	—	0.4	0.2	6.7	3.6	0.3	1.3	0.2	0.2
	30	820	87.1	12.9	—	0.2	—	—	0.2	8.6	1.4	0.4	0.6	1.3	0.2
		1078	87.8	12.2	—	0.4	—	0.3	0.1	8.1	1.3	0.4	1.1	0.2	0.3
County and town roads without grade crossings															
Tompkins	10	151	75.5	24.5	—	2.6	9.9	5.3	0.7	2.0	—	1.4	2.6	—	—
	13	237	38.9	61.1	—	11.4	5.1	8.0	3.8	15.2	3.8	0.8	1.3	7.2	4.5
		217	45.6	54.4	—	5.1	8.8	6.9	1.8	12.9	3.2	0.9	3.2	5.6	6.0
Dirt roads without grade crossings															
Wayne	3	118	42.4	57.6	—	1.7	3.4	10.2	17.8	—	9.3	1.7	4.2	6.8	2.5
Tompkins	12	105	71.4	28.6	—	3.8	11.4	4.8	1.9	2.9	—	0.9	2.9	—	—
Average for 30 roads			64.6	35.4	1.8	5.8	1.2	1.5	1.4	14.2	3.7	1.0	1.6	2.2	1.0
Total		39968													

*For the description of roads, see footnote, Table 5.

TABLE 9.—PERCENTAGES OF THE TOTAL TRAVEL ON NINE STATE ROADS ORIGINATING WITHIN THE TOWNSHIP WHERE THE ROAD IS LOCATED; ORIGINATING WITHIN NEW YORK CITY AND BROOKLYN; AND ORIGINATING WITHIN THE COUNTIES OF WESTCHESTER, ERIE, MONROE, ONONDAGA AND ALBANY.

County	Road* reference number	Origin of travel						Total, New York City, Brooklyn, Counties of Westchester Erie, Monroe, Onondaga, Albany	Total for township in which road was located
		New York and Brooklyn	Westchester County	Erie County	Monroe County	Onondaga County	Albany County		
		Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
Seneca	5	3.2	0.8	6.7	3.6	5.8	1.3	21.4	1.0
		3.1	0.8	4.2	2.7	6.6	1.5	18.9	1.5
	6	3.1	0.2	3.4	5.9	0.9	0.9	14 4	5.9
		1.2	0.2	1.8	8.0	2.2	0.8	14.2	7.2
Tompkins	14	3.2		0.6	0.3	6.1	2.9	13.1	23.6
		0.3		0.3	0.3	4.2	0.9	6.0	16.6
Schuyler	16	0.6	0.1	0.5	0.6	5.6	0.1	7.5	0.2
		1.9	0.6	2.7	1.7	18.7	0.9	26.5	0.9
Chemung	17	1.5	0.4	1.7	2.0	1.6	0.1	7.3	8.0
		1.9	0.2	1.4	1.2	3.3	0.2	8.2	17.1
	18	1.2	0.3	1.6	2.4	1.0	0.2	6.7	6.1
		2.3	0.1	2.3	1.5	1.6	0.5	8.3	8.0
	19	1.1	0.2	1.3	2.6	0.4	0.3	5.9	7.2
		2.2	0.1	2.7	1.6	0.5	0.6	7.7	8.0
Rensselaer	29	7.5	1.0	1.0	1.0	1.3	19.4	31.2	0.6
		8.4	2.3	0.4	1.0	1.0	19.6	32.7	1.0
	30	11.6	1.9	1.1	0.9	1.7	19.0	36.2	0.4
		13.7	3.9	0.5	1.0	0.9	19.2	39.2	0.8

*See footnote Table 5.

County Travel Compared with Travel Originating in Adjacent County

On one road in Schuyler county and on two roads in Rensselaer county travel originating in an adjacent county was greater than the county travel, Table 10.

On two roads in Seneca county the travel from an adjacent county was approximately equal to the county travel.

On three roads in Chemung county travel from an adjacent county was one-half the county travel.

TABLE 10.—PERCENTAGES OF THE TOTAL TRAVEL ORIGINATING WITHIN THE COUNTY AND WITHIN AN ADJACENT COUNTY ON TEN ROADS

County	Road* reference number	Origin of travel		
		County	Adjacent county	
		Per cent	Per cent	Name of county
State Roads				
Seneca	5	11.6	14.0	Ontario
		23.9	16.4	Ontario
	6	18.9	27.5	Ontario
		30.3	22.4	Ontario
Tompkins	14	48.3	6.9	Cortland
			4.0	Cayuga
		49.5	5.5	Cortland
			9.1	Cayuga
Schuyler	16	5.3	28.0	Chemung
			21.8	Tompkins
		7.1	18.7	Chemung
			15.5	Tompkins
Chemung	17	36.2	23.7	Steuben
		42.1	17.1	Steuben
	18	42.6	22.3	Steuben
		41.7	23.3	Steuben
	19	54.6	16.9	Steuben
		49.6	22.9	Steuben
Rensselaer	29	14.4	19.4	Albany
		13.3	19.6	Albany
	30	12.9	19.0	Albany
		12.2	19.2	Albany
County and Town Road				
Tompkins	13	61.1	10.2	Cortland
			0.8	Cayuga
		54.6	10.6	Cortland
			1.9	Cayuga

*See footnote Table 5.

SOME RESULTS OF THE NEW YORK STATE DISTRIBUTION OF HIGHWAY AID

For many years the State of New York has pursued a policy of state aid to localities for roads. This assistance has been partly in direct grants of aid and partly in taxes apportioned among localities. The Special Joint Committee on Taxation and Retrenchment has made a study of this problem. Some of its data are presented in Table 1.

TABLE 1.—STATE CONTRIBUTION TO LOCALITIES FOR HIGHWAYS, 1917-1923*

Year	State aid to towns for repair and improvement of town highways	State aid to counties for repair of county roads	State aid to counties for construction of county-aid highways (Lowman Act)	Total state aid for highways	Motor vehicle taxes returned to counties	Total state contribution for highways
1917	$1,589,313.68			$1,589,313.68	$2,051,983.88	$3,641,297.56
1918	2,277,595.74	$20,000		2,297,595.74	2,381,760.69	4,679,356.43
1919	2,146,626.45	20,000		2,166,626.45	2,852,030.53	5,018,656.98
1920	2,240,050.93	20,000		2,260,050.93	2,014,137.41	4,274,188.34
1921	2,271,378.45	60,000	$1,450,646.28	3,782,024.73	2,711,731.78	6,493,756.51
1922	2,442,910.44	30,000	2,705,190.00	5,178,100.44	3,024,569.04	8,202,669.48
1923	2,489,660.43	30,000	2,299,400.00	4,819,060.43	4,442,823.02	9,261,883.45

*Report of the Special Joint Committee on Taxation and Retrenchment, 1925, p. 49.

Since 1917, state aid to towns for repair and improvement of town highways rose from 1.6 million dollars to 2.5 millions; total state aid for highways increased from 1.6 million dollars to 4.8 millions. When motor vehicle taxes returned to countries are added, the total state contribution for highways grew from 3.6 million dollars in 1917 to 9.26 millions in 1923.

The importance of state aid in the most important local unit for highway expenditures, the town, is indicated in Table 2.

TABLE 2.—STATE AID TO TOWNS AND TOWN EXPENDITURES FOR HIGHWAYS—1917-1923*

Year	State aid to towns for highways	Town expenditures for highways exclusive of expenditures from bond funds	Per cent state aid is of town highway expenditures
1917	$1,589,313.68	$9,053,611.84	17.5
1918	2,277,595.74	10,017,589.10	22.7
1919	2,146,626.45	12,395,309.86	17.3
1920	2,240,050.93	15,996,668.50	14.0
1921	2,271,378.45	20,098,262.09	11.3
1922	2,442,910.44	19,596,587.35	12.5
1923	2,489,660.43	15,921,866.68**	15.6***

*Report of the Special Joint Committee on Taxation and Retrenchment, 1925, p. 50.
**Annual Report of the New York State Tax Commission, 1923, p. 55.
***Computed.

Localities to which the state has given aid are shown in Table 3.

In Table 3, the name of a county stands for the towns in that county treated as a group. These "names" are arranged in order of the full valuation of their real estate per mile of highway. To get this figure the full valuation of all real estate in each county was divided by the number of miles of highway in that county.

As the valuation increases, the amount of state contribution increases though not proportionately. There are trifling exceptions but the trend is upward and becomes strongly so with heavy rises in valuation. It is more rapid in the cases of total state contribution, than in state aid to towns, because of the inclusion of motor vehicle taxes. These are distributed on the basis of registrations. The wealthier counties have more registrations.

TABLE 3.—STATE AID FOR THE MAINTENANCE AND IMPROVEMENT OF TOWN HIGHWAYS—1923*

County**	Highway mileage	Full valuation of real estate per mile of highway	State aid to towns per mile of highway	Total state contribution available for maintenance per mile of highway (aid to towns and motor vehicle tax)	Total state contribution for maintenance and construction per mile of highway
Westchester	868	$990,225.10	$126.19	$402.04	$432.04
Erie	1,883	586,558.90	52.61	209.04	239.04
Monroe	1,368	411,456.38	45.98	194.37	224.37
Schenectady	426	344,715.10	34.50	93.17	123.17
Niagara	934	248,658.70	42.44	157.25	187.25
Albany	1,099	215,715.80	32.27	117.38	147.00
Nassau	1,491	208,551.68	104.50	167.70	197.70
Onondaga	1,635	208,417.72	34.11	121.93	151.93
Rockland	386	161,653.83	63.31	151.39	181.39
Suffolk	1,953	129,854.98	72.06	108.34	138.34
Broome	1,437	99,592.10	27.17	58.45	88.46
Oneida	2,317	98,145.62	28.09	67.36	97.36
Orange	1,595	97,648.31	36.85	49.03	79.03
Chemung	875	89,670.14	25.48	52.84	82.89
Rensselaer	1,315	86,287.54	24.06	60.35	90.35
Montgomery	849	82,741.47	24.06	58.89	88.89
Dutchess	1,617	76,966.80	32.00	65.54	95.54
Chautauqua	1,961	72,333.18	28.03	62.12	92.12
Genesee	920	63,664.50	30.95	53.56	83.56
Orleans	720	59,320.00	33.13	65.59	85.59
Ontario	1,348	57,844.04	29.21	50.07	80.07
Fulton	769	56,666.97	22.29	54.54	84.53
Herkimer	1,490	56,480.91	27.60	41.57	71.57
Jefferson	2,204	52,086.78	23.98	39.17	69.17
Putnam	509	50,957.42	38.70	57.12	87.12
Cayuga	1,490	49,780.06	25.21	48.15	78.15
Wayne	1,348	49,394.79	30.61	38.92	68.92
Ulster	1,848	47,261.49	26.80	53.00	83.00
Saratoga	1,511	46,895.82	24.16	44.27	74.05
Oswego	1,714	44,406.21	25.61	45.31	75.31
Tompkins	1,091	42,908.30	25.22	48.80	78.80
Warren	1,010	42,042.71	23.96	31.29	61.29
Seneca	704	41,385.21	26.22	42.09	72.09
Cattaraugus	1,975	40,380.94	22.10	41.16	71.18
Livingston	1,285	39,870.72	28.70	44.84	74.84
Columbia	1,379	36,413.54	25.79	43.74	73.74
Franklin	1,377	35,145.49	26.27	42.77	42.77
Essex	1,291	34,456.78	25.82	40.41	70.41
Wyoming	1,076	34,225.22	25.00	39.87	69.87
Cortland	1,037	32,193.20	24.92	43.72	73.72
Madison	1,422	31,621.44	25.51	34.94	64.94
St. Lawrence	3,099	31,095.12	26.11	40.09	70.09
Greene	1,062	28,995.84	26.01	43.77	73.77
Yates	769	28,936.05	24.38	36.08	66.08
Clinton	1,384	28,729.88	19.55	33.43	63.43
Alleghany	1,894	26,702.23	24.89	37.31	63.71
Sullivan	1,901	26,414.89	24.81	40.65	70.65
Hamilton	461	26,007.24	25.95	31.20	59.40
Washington	1,533	25,838.91	22.52	30.66	60.66
Steuben	3,094	25,804.40	25.00	32.23	62.23
Otsego	2,153	24,352.03	23.41	36.56	66.56
Tioga	1,067	21,649.85	23.80	36.11	66.10
Lewis	1,449	21,421.91	24.59	34.87	64.87
Schuyler	762	21,051.73	23.40	31.99	61.98
Delaware	2,358	20,810.12	24.38	35.43	65.43
Chenango	1,746	20,722.03	25.07	38.25	68.25
Schoharie	1,259	14,730.69	22.63	33.55	63.55

*Rearranged from Report of the Special Joint Committee on Taxation and Retrenchment No. 97, p. 52, and it in turn based on the annual reports of the Comptroller and of the Highway Department.

**The towns in each county are treated as a group under the county name.

The effect of the present system of distribution is shown in Table 4. Westchester County has 67 times as great a valuation per mile of highway as Schoharie. Presumably it is able to spend 67 times as much per mile from its local resources. The state contributes to Westchester nearly 7 times as much per mile as it gives to Schoharie.

TABLE 4.—RELATION BETWEEN ABILITY TO PAY AND RECEIPTS FROM THE STATE IN SELECTED COUNTIES

County	Full value of real estate per mile	Aid from the state to towns per mile of highway	Total state contribution for maintenance and construction per mile of highway	Ability to maintain highways as measured by full valuation when Schoharie = 100	Receipts of aid from state to towns when Schoharie = 100	Total receipts of aid from state for maintenance and construction when Schoharie = 100
Westchester	$990,225.10	126.19	432.04	6722	558	680
Niagara	248,658.70	42.44	187.25	1688	188	295
Suffolk	129,854.98	72.06	138.34	882	318	218
Saratoga	46,895.82	24.16	74.05	318	107	117
Greene	28,995.84	26.01	73.77	197	115	116
Schoharie	14,730.69	22.63	63.55	100	100	100

Another expression of the distribution of state aid may be seen in Table 5.

TABLE 5.—HIGHWAY EXPENDITURE FOR TOWNS IN 1923 AND STATE AID TO TOWNS PER MILE OF HIGHWAY RELATED TO FULL VALUATION OF REAL ESTATE PER MILE OF HIGHWAY

Real estate valuation per mile of highway	Number of counties in each class	State aid per mile of highway*	Total expenditure per mile of highway**	Per cent State aid is of total expenditure
$101,000-$1,000,000	10	$61.28	$313.13	19
59,000 100,000	10	29.13	182.28	16
46,000 58,000	9	26.77	171.25	16
34,000 45,000	10	25.31	169.96	15
26,000 33,000	9	24.77	143.97	17
14,000 25,900	9	24.05	120.62	20

*Computed from table 3.

**Computed from town expenditures for highway purposes as given in the Special Report of the Comptroller of New York on Municipal Accounts, 1923. All special district funds for lighting, sprinkling and constructing sidewalks were omitted. State aid was added to town expenditures to get total expenditures.

State aid in dollars rises as valuation of real estate rises. The difference between the poorer groups and the wealthiest section is very great.

Expenditure for highways increases more rapidly than state aid therefore the percentage furnished by the state tends to decline in the wealthier sections. This tendency is by no means unbroken. The section with highest real estate valuation is second in the proportion of its highway funds granted by the state.

If it is intended that state aid for highway purposes should equalize opportunities between poor and rich sections, the larger sums given to the richer counties do not accomplish the purpose.

If the intent is that state traffic should be paid for with state funds, the question arises whether town roads in the richer sections do receive as much more state traffic as they receive additional funds from the state.

M. Slade Kendrick

SOME FACTS CONCERNING THE DISTRIBUTION OF FRUITS AND VEGETABLES BY JOBBERS IN THE NEW YORK METROPOLITAN AREA, 1924

These data are used from studies carried on by the Department of Agricultural Economics and Farm Management, New York State College of Agriculture, in cooperation with the Bureau of Agricultural Economics, United States Department of Agriculture.

Very few of the wholesale receivers of fruits and vegetables in the New York metropolitan area sell directly to retailers, and where they do, such activities are largely confined to sales to large chain store or hotel systems. Ordinarily the wholesaler disposes of a carload of produce to about 10 to 20 jobbers, who in turn cater to the highly specialized and diversified wants of grocery stores, hotels, restaurants, fruit stands and the like. (Table 1.) This report deals with an analysis of jobbers' costs in distributing fruits and vegetables in the New York metropolitan district. A report on wholesalers' costs appeared in the June, issue of FARM ECONOMICS.[1]

Location of Jobbing Markets

There are at least 4 jobbing markets of major importance in the New York metropolitan district besides the great combination wholesale and jobbing market on lower West Side Manhattan. These major jobbing markets are: (1) the Wallabout Market in Brooklyn; (2) the Gansevoort Market in the vicinity of West 14th Street, Manhattan; (3) the Harlem Market between 100 and 106th Streets, mainly on First Avenue, Manhattan; and (4) the Newark Market, Newark, N. J. Besides the foregoing, there are numerous small jobbing centers scattered around the metropolitan district. This study covers an analysis of the business done by 11 jobbers in the Wallabout Market, 9, in the Gansevoort Market, 9, in the Harlem Market, 5, in the Newark Market, and 3 in the lower West Side Manhattan Market.

TABLE 1.—VARIATIONS IN NUMBER OF PACKAGES OF SELECTED FRUITS AND VEGETABLES SOLD BY WHOLESALERS TO JOBBERS IN THE NEW YORK METROPOLITAN DISTRICT, 1924

Commodity	Container	Number of packages sold at one sale			Usual number of packages per carload*	Fraction usual sale is of carload
		Usual	Minimum	Maximum		
Potatoes	sacks	25	5	1000	240	1/10
Apples	barrels	13	4	250	175	1/13
Cabbage	sacks	13	3	250	250	1/19
Onions	sacks	16	6	500	250	1/16
Grapes	12 quart baskets	53	22	1200	1200	1/23
Lettuce	crates	23	6	600	600	1/26
Celery	crates	15	4	420	250	1/17
Peaches	baskets	21	6	100	360	1/17
Cauliflower	crates	20	3	100	400	1/20
Peas	baskets	16	3	100	475	1/30
Pears	barrels	12	4	50	165	1/14
Strawberries	crates	7	1	50	240	1/34
Turnips	baskets	55	12	220	600	1/11

*Table of packages per carload, United States Department of Agriculture, Market News Service, March 15, 1926.

Functions of Jobbers

The small-unit, wide-variety purchasing habits of the metropolitan consumer make it necessary that the grocer or fruitstand operator have a little of everything in stock. The average consumer buys only enough to last for one day. The grocer or fruitstand operator makes his own purchases on the same basis. This accounts for the buying practices of the jobber as shown in Table 1. The metropolitan jobber characteristically visits the great wholesale produce market on lower West Side Manhattan around midnight or in the very early hours of the morning. Estimating the needs of his customers for the day, he buys small parts of about 10 to 20 carloads of fruits and vegetables, usually in lots of from 5 to 20 packages. He goes to the large wholesale market because he finds there the greatest range in quantity and quality and can buy his daily needs in the shortest possible time. Having made his purchases, he either carts the produce off in his own truck or else engages a professional truckman. Most jobbers prefer to have their daily purchases arrive at their stores about 7:00 and not later than 8:00 a. m., at which time their customers come to select their needs for the day. Trading is usually brisk for about 3 hours, and by noon time most of the day's business has been transacted. It is not unusual for these jobbers to put in from 12 to 14 hours daily in their combined buying and selling operations. The usual size of sale by jobbers for selected commodities is about 3 packages per commodity. (Table 2.)

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[1] Farm Economics No. 45; pp. 706 to 711, June 1927.

TABLE 2.—VARIATIONS IN NUMBER OF PACKAGES OF SELECTED FRUITS AND VEGETABLES SOLD BY JOBBERS TO RETAILERS, HOTELS, RESTAURANTS, ETC., IN THE NEW YORK METROPOLITAN DISTRICT, 1924

Commodity	Container	Number of packages sold at one sale			Usual number of packages per carload*	Fraction usual sale is of carload
		Usual	Minimum	Maximum		
Potatoes	sacks	4	1	2000	240	1/60
Apples	barrels	3	1	125	175	1/58
Cabbage	sacks	3	1	120	250	1/83
Onions	sacks	1	1	50	250	1/250
Grapes	12 quart baskets	4	1	300	1200	1/300
Lettuce	crates	2	1	35	500	1/300
Celery	crates	2	1	15	250	1/125
Peaches	baskets	2	1	21	360	1/180
Pears	barrels	5	1	30	165	1/33
Turnips	baskets	1	1/2	3	600	1/600

*Table of packages per carload, United States Department of Agriculture, Market News Service, March 15, 1926.

Reconditioning

While the amount of reconditioning, repacking or regrading varies both with different markets, and with jobbers within the same market, practically all jobbers do some and the hotel and restaurant trade do a great deal. It is a common experience to have to resort 2 or 3 packages in order to fill the exacting requirements of an institutional order. This adds materially to the costs of marketing the commodity so sorted.

Gross Costs and Margins

The 37 jobbing firms studied had gross sales of fruits and vegetables for the year 1924 amounting to $13,054,993.13 or an average per firm of $352,837.65. Out of this total, $11,387,505.51 or 87.23 per cent was paid to wholesalers for the produce handled and allowances granted retailers by jobbers for alleged defective goods amounted to $49,596.83 or 0.38 per cent. The actual total margin taken for distribution within the metropolitan district amounted to $1,617,890.81 or 12.39 per cent of gross sales. Of this amount, 2.41 per cent represented salaries and net profits of proprietors. (Table 3.)

It appears that for each dollar's worth of fruits and vegetables sold by jobbers in the metropolitan district, approximately 87.6 cents was paid out for the produce handled, or was deducted from sales price because of defective goods, and 10 cents was absorbed by costs of distribution, leaving a margin of 2.4 cents to cover proprietors' salaries and net profits. The gross margin taken by jobbers was 12.39 per cent of gross sales as compared with 8.9 per cent taken by wholesalers in the same district during the same year.[2]

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[2] Farm Economics No. 45, page 708 June 1927.

TABLE 3.—SALES AND COSTS OF DISTRIBUTING FRUITS AND VEGETABLES IN THE NEW YORK METROPOLITAN DISTRICT. 37 PRODUCE JOBBING FIRMS, 1924

Item	Total 37 firms	Average per firm	Per cent of gross sales
Amount paid to wholesale receivers for fruits and vegetables	$11,387,505.51	$307,770.41	87.23
Allowances for alleged defective produce	49,596.83	1,340.46	.38
Costs of distribution in New York metropolitan district (not including proprietors' salaries and profits or losses)	1,303,827.14	35,238.57	9.98
Salaries and profits of proprietors*	314,063.67	8,488.21	2.41
Gross sales	$13,054,993.15	$352,837.65	100.00

*There were 70 active partners or proprietors in the 37 jobbing firms studied or an average of 1.9 proprietors per firm.

Detailed Costs of Marketing

The data covering itemized costs of distribution for the 37 jobbing firms are given in Table 4. One of the difficulties encountered in this study was lack of adequate accounting on the part of many jobbers who were visited. This study covers only those jobbers whose accounts were found to be reasonably well kept.

TABLE 4.—COSTS INCURRED BY 37 JOBBING PRODUCE FIRMS IN DISTRIBUTING $13,054, 993,15 WORTH OF FRUITS AND VEGETABLES IN THE NEW YORK METROPOLITAN DISTRICT, 1924

Items of cost	Total cost 37 firms	Average cost per firm	Per cent of gross margin
Wages of employees	$665,635.26	$17,990.14	41.14
Salaries of proprietors	289,338.80	7 819.97	17.88
Net profits	24,724.87	668.24	1.53
Rent and storage	100,034.50	2,703.64	6.18
Cartage	89,083.04	2,407.65	5.51
Depreciation	61,452.42	1,660.88	3.80
Auto expenses	58,363.37	1,577.39	3.61
Miscellaneous expenses	57,792.58	1,561.96	3.57
Commissions & Brokerage*	45,790.82	1,237.59	2.83
Bad debts	41,939.66	1,133.50	2.59
Interest on investment	36,360.76	982.72	2.25
Traveling expenses	27,682.00	748.16	1.71
Insurance	26,661.50	720.58	1.65
Repacking, etc.	23,562.49	636.82	1.46
Telephone & Telegraph	17,045.65	460.69	1.06
Office supplies	12,497.45	337.77	.77
Power, light & heat	11,356.89	306.94	.70
Interest on borrowed money	9,578.73	258.89	.59
Taxes	8,065.28	217.98	.50
Legal & auditing fees	4,903.89	132.54	.30
Advertising	3,434.57	92.83	.21
Collection services	1,763.38	47.66	.11
Donations, etc.	822.90	22.24	.05
Gross Margin	$1,617,890.81	$43,726.78	100.00

*Commission & brokerage fees are paid buyers who attend auction sales or nearby country areas, and buy for a number of jobbers at one time.

Cost of Labor

As in the case of the wholesale study, labor constituted by far the largest item of cost. Out of an average gross margin of $43,726.78 per firm (Table 4), wages of employees made up $17,990.14 or 41 per cent. When salaries of employees and commission and brokerage fees are added, it will be apparent that labor and management accounted for approximately 63 per cent of all costs of distribution.

The rate of wages paid employees by jobbers were substantially the same as those paid by wholesalers.[3]

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[3] Farm Economics No. 45, page 708 June 1927.

Rent and Storage

With the exception of a few jobbers engaged in catering to the hotel, restaurant and steamship trade, very few of the jobbers studied had much in the way of storage or operating space. Practically all of them make wide use of the sidewalks in front of their stores. In most of the jobbers' places of business it would probably be difficult to find adequate storage space for 2 or 3 carloads of produce. The jobber stores very little produce over night, relying on the great wholesale market to supply his daily needs. Despite this fact, the jobbers almost without exception complained of the high rentals they were required to pay. The average rental paid per firm was $2,703.64 or slightly more than 6 per cent of all costs of distribution. With the growing demand for building sites on Manhattan Island, it seems unlikely that rental charges will decrease in the near future.

Cartage and Delivery

The jobber has at least two transportation charges to meet. He must pay to have his purchases carted from the great wholesale market to his store in the jobbing market, and he customarily pays for the delivery of a large percentage of the produce he sells to grocers, hotels, fruitstands, etc. The jobber may operate his own trucks or he may hire professional truckers to do the work.

Cartage is a costly process in almost any large city, but it is doubtful whether the congestion problem in any other city is as serious as that of Manhattan Island. Studies of the trucking business in New York City[4] indicate that trucks engaged in hauling produce spend approximately 29 hours out of each 100 in unproductive work due to congestion, waiting, etc. For the 37 jobbers studied, $89,083.04 was spent for hired cartage, and approximately $151,327.42 in the maintenance of auto trucks for delivery purposes, making in the aggregate a sum of $240,410.46 for hauling produce or 14.9 per cent of all costs of distribution by jobbers. Various projects are being undertaken by New York City for reducing peak loads of traffic. A steady increase in manufacturing plants located in the New York area, and the building of vehicular tunnels and bridges, making Manhattan Island more readily accessible by truck, render it extremely unlikely that trucking costs will be reduced in the near future, if indeed they do not increase.

Bad Debts

As in the wholesale study, bad debts are a serious factor in the jobbing of fruits and vegetables. It is common knowledge that the percentage of failures in the retail grocery business is relatively high and since jobbers deal largely with such retailers, they have to absorb many losses from this source. Approximately 55 per cent of sales by jobbers are for cash, about 37 per cent for 10 day credit and about 8 per cent for 30 days or more. In the case of hotels, restaurants, railroads and steamships, credit is frequently given for six months or more. The 37 jobbers sustained losses from bad debts, amounting to $41,939.66 or $1,133.50 per firm. Bad debts were 2.6 per cent of all costs of distribution.

Some of the jobbers doing a large volume of business were members of the credit association organized by the wholesalers. In the main, however, these jobbers do their own collecting and make credit sales largely on the basis of individual judgment.

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[4] Port of New York Authority, "Some Facts about Margins and Costs in Marketing Fruits and Vegetables in the Port of New York District," New York City, April 1925, pages 8 and 9.

Managerial Salaries

There were 70 managers, partners, or proprietors in the 37 jobbing firms studied, or an average of 1.9 per firm. These 70 principals received an average salary of $4,133.41 for their year's work or approximately $80 per week. Most of these jobbers either owned their business outright or held stock in the same. If all of the net profits accrued to the 70 principals, were added to their salaries, each principal would have received $4,486.62 for his year's work.

Profits and Losses

While the average figures indicate that a net profit was made by the thirty-seven jobbing firms during the year 1924, there were 17 out of the 37 whose books showed a net loss. The highest net profit made by any jobbing firm was $10,102.68; the largest loss by any one firm was $10,686.96.

TABLE 5.—AVERAGE AND RANGE IN ITEMS OF COST OF DISTRIBUTION PER $1000 OF GROSS SALES BY 37 JOBBING PRODUCE FIRMS, NEW YORK METROPOLITAN DISTRICT, 1924

Item of cost	Cost of Distribution per $1000 of gross sales		
	Average cost 37 firms	Lowest cost dealer 1	Highest cost dealer 13
Wages of employees	$50.99	$18.81	$102.00
Salaries of proprietors	22.16	6.32	48.12
Rent and storage	7.66	4.42	56.06
Cartage	6.82	4.68	——
Depreciation	4.71	5.27	16.84
Auto expenses	4.47	3.87	17.32
Miscellaneous expenses	4.43	.65	81.97
Commissions & brokerage	3.51		
Bad debts	3.21		8.42
Interest on investment	2.79	.47	1.44
Traveling expenses	2.12		
Insurance	2.04	2.72	10.22
Repacking, etc.	1.81		
Telephone & telegraph	1.31	2.21	2.41
Office supplies	.96	.23	1.20
Power, light & heat	.87	.55	4.33
Interest on borrowed money	.73	.29	
Taxes	.62		
Legal & audit fees	.38		
Advertising	.26		
Collection services	.13		
Donations, etc.	.06	1.10	
Total Cost	$122.04	$51.59	$350.33

Standards of Comparison

The type of men who are engaged in the jobbing business range all the way from graduates of large universities to illiterate foreign-born. Almost without exception, the better educated jobbers commented on the difficulties of competing with jobbers, who do not know their costs. That some of these jobbers are aware of this deficiency is indicated by their employment of accounting services to check up on their dealings weekly.

Analysis of these 37 jobbers indicates that there is a wide range in costs. The cost of distribution averaged $122.04 per $1000 of gross sales, and ranged from $51.59 to $350.33, a difference of approximately 700 per cent. (Table 5). The average cost items per $1000 of gross sales are shown in Table 5.

While the number of jobbers in this study was small, and while these jobbers were probably above average, a comparison of costs may be of service to the managers of jobbing firms in locating weak spots and making them more efficient.

M. P. Rasmussen

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 47 SEPTEMBER, 1927

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm Prices		United States Prices of Food		Cost of living United States[4]	Weekly earnings N. Y. factory workers[5]	Prices of 70 indust'l stocks'	Interest rates 4-6 mos. comm'l. paperl[7]
		New York[2]	United States[2]	Farm[3]	Retail[3]				
1913........	102	97	99	100	103	100		96	115
1914........	100	103	101	105	106	103	101	96	99
1915........	103	100	101	106	107	105	104	119	71
1916........	129	116	119	117	117	118	116	152	71
1917........	180	170	180	181	156	142	132	140	98
1918........	198	186	206	200	180	174	164	130	121
1919........	210	206	215	213	194	199	190	160	112
1920........	230	217	214	207	207	200	227	144	153
1921........	150	144	119	130	163	174	207	118	135
1922........	152	134	124	121	150	170	202	146	92
1923........	157	142	137	124	154	173	220	155	102
1924........	152	128	140	126	153	173	223	166	81
1925........	162	147	154	152	169	178	228	221	83
1926........	154	156	142	154	174	176	234	247	88
Dec., 1925...	159	159	152	159	171	178	234	250	87
Jan., 1926...	159	158	150	157	174		234	252	99
Feb.........	158	156	150	156	175		230	255	100
Mar.........	154	158	145	154	177		234	239	97
Apr.........	154	171	146	158	180		233	232	96
May........	155	176	145	161	179		231	233	93
June........	155	176	146	161	177	175	234	242	87
July........	154	163	143	156	172		232	249	81
Aug.........	152	150	140	147	169		233	256	79
Sept........	154	148	140	148	171		236	254	78
Oct.........	153	140	134	148	171		237	246	81
Nov.........	151	150	135	151	170		235	250	85
Dec.........	150	145	133	150	169	176	238	256	87
Jan., 1927...	150	142	130	145	171		237	252	96
Feb.........	149	142	132	145	171		237	258	95
Mar.........	148	142	131	142	172		240	261	90
Apr.........	147	147	130	143	172		235	265	93
May........	147	167	132	146	172		235	273	94
June........	146	172	134	149	172		235	275	93
July........	147	161	137	148			233	282	85
August......			139					290	

(For footnotes see next page.)

BUSINESS CONDITIONS

There has been some recession in urban business this summer and the physical volume of production is slightly less than a year ago.

Employment is fairly satisfactory. There is little unemployment, but jobs are harder to get. This is, no doubt, an incentive for more efficient production.

The net gold movement into the United States during the first part of 1927 was larger than in 1925 or 1926. Money continues to be cheap. Interest rates on 4-6 months commercial paper have been below pre-war since February 1926.

The general price level has declined 18 points in the past 22 months. The general price level now stands at 147 which is one point above the June level. This is the first advance in 10 months.

The price of 70 industrial stocks is now 290 per cent of pre-war prices. In May 1924, the price of stocks was 154 per cent of pre-war. In 38 months the stock market has risen 136 points or 3.5 points per month. Investors are placing a very high value on urban enterprises.

FARM PRICES IN THE UNITED STATES

The United States farm prices are now 139 per cent of the pre-war average. There has been a gradual advance since April when the index number was 130.

During July, the index number of the prices of 16 products rose and 7 fell. During August, the index number of prices of 13 products rose, 7 fell, and 3 were stationary.

The most striking changes have been the advance in the prices of corn, cotton, and apples, and the decline in the prices of potatoes.

New York Farm Prices

In July, New York farm products were 161 per cent of pre-war. Milk prices are higher than a year ago. During the three months, May-July, the index number of the price of 3.7 per cent milk at Utica, New York, averaged 92 per cent above pre-war. It averaged 84 per cent a year ago.

During the past 3 months, the wholesale price of nearby hennery white eggs, average extras, was only 30 per cent above pre-war. A year ago it was 49 per cent above pre-war.

The New York apple crop is short and the quality is poor. Those who have a fair crop will receive good incomes.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February 1927.

[4] Reported by the United States Bureau of Labor Statistics, 1913 = 100. Monthly Labor Review Vol. XXIV, No. 2, p. 168, February 1927.

[5] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[6] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[7] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

Feed Prices

The price of a dairy ration rose 43 cents in August. The prices of practically all feeds rose, but the advances were not so large as usual at this time of year and the index numbers of prices declined somewhat.

The corn crop is a weather proposition. The crop was planted late and it has made slow growth. Future prices of corn have risen very rapidly and have fluctuated violently. The size of the crop is dependant upon how long the frost holds off.

F. A. Pearson

EDUCATION AND LABOR INCOME

Farm boys of school age who are questioning the advisability of entering or completing high school or college should consider the increased earning power that education gives.

Farm surveys taken some years ago in different parts of the United States indicate that the labor incomes of farm owners who attended high school were on the average 71 per cent larger than were the labor incomes of farmers who did not go beyond the district school. Table 1. The farmers who attended high school had, on the average, 43 per cent more capital. A comparison of the two groups with equal capital showed that the high school farm owners made labor incomes 31 per cent larger in Tompkins County and 23 per cent larger in Jefferson County.

The scientific and business problems that farmers must solve are more difficult today than they were a generation ago. But schools and colleges are now much better prepared to give instruction in agriculture and business. Instruction now is of direct assistance in the making of profitable business decisions. Although education has been the best investment in the past, it promises even greater returns for the future.

TABLE 1.—EDUCATION AND FARM PROFITS AS SHOWN BY FARM SURVEY STUDIES

Area studied	Number of farms		Operator's farm capital		Operator's labor income	
	Owners	Tenants	Owners	Tenants	Owners	Tenants
Tompkins Co. N. Y. 1907*						
District school	398	113	$4995	——	$318	$407
More than district school	175	24	6980	——	635	473
Livingston C., N. Y. 1908						
District school	239	161	9059	$2837	525	664
More than district school	117	43	12982	2743	662	578
Jefferson Co., N. Y. 1910						
District school	235	204	7381	1311	454	464
More than district school	65	48	11220	1471	738	630
Indiana, Illinois, Iowa 1910**						
District school	218	190	27265	2188	285	741
More than district school	55	57	38552	3219	675	1316
Average of above surveys						
District school	272	167	12175	2112	396	569
More than district school	103	43	17434	2478	678	749
Index numbers						
District school	100	100	100	100	100	100
More than district school	38	26	143	117	171	132

*Warren, G. F. and Livermore, K. C. An agricultural survey townships of Ithaca, Dryden, Danby and Lansing, Tompkins County, New York. Cornell Univ. Agr. Exp. Sta. Bul. 295: 550. March, 1911.

**Thomson, E. H., and Dixon, H. M. A farm-management survey of three representative areas in Indiana, Illinois, and Iowa. U. S. Dept. Agr. Bul. 41:38. Jan. 1914.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet Pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
August	79.5	37.9	125.1	55.0	93.7	215.7	3.31	16.1	13.04	...	140.5	189.0
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	...	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	...	126.4	110.6
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	...	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	...	137.0	94.0
1927												
January	64.3	42.6	122.2	58.0	83.6	193.0	2.99	10.6	13.38	...	139.1	97.8
February	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	...	134.1	109.0
March	65.2	43.4	120.9	62.2	86.0	195.1	2.76	12.5	13.48	...	127.0	112.3
April	65.6	43.2	117.2	64.1	85.1	196.1	2.86	12.3	13.26	...	126.6	112.8
May	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	...	146.0	118.9
June	88.9	48.0	130.1	76.3	98.8	204.7	3.23	14.8	13.10	...	191.0	136.0
July	92.4	46.3	127.4	71.4	101.0	198.4	3.35	15.5	11.71	...	183.1	136.4
August	97.7	44.4	123.5	69.0	98.1	203.7	3.45	17.1	9.97	...	146.3	146.7

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	169
1919	242	174	244	171	214	238	195	239	173	183	200	173
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1926												
August	112	95	147	96	121	126	144	129	113	...	158	195
September	104	91	135	90	121	124	132	138	111	...	162	165
October	106	100	139	90	119	118	127	97	113	...	183	130
November	104	103	140	93	117	121	133	91	114	...	236	116
December	110	106	143	93	117	127	134	82	109	...	226	130
1927												
January	110	111	140	95	118	119	133	86	114	...	222	125
February	112	110	138	96	119	115	132	94	114	...	204	131
March	108	108	136	99	122	112	127	101	112	...	190	128
April	106	107	132	100	118	113	131	99	110	...	186	121
May	113	110	137	105	121	117	130	110	108	...	210	122
June	131	115	143	118	131	117	140	117	106	...	275	142
July	134	111	146	116	128	119	146	122	98	...	246	149
August	138	111	145	120	126	119	150	137	86	...	165	152

*Cotton prices and index numbers for August to December inclusive are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk Cows head	Beef Cattle cwt.	Veal Calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.20	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
August	104	80	22.1	26.4	39.0	65.37	6.29	9.54	6.92	11.12	31.9	11.66
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97
1927												
January	97	73	20.1	36.9	44.0	66.77	6.45	9.75	6.87	10.65	30.9	10.97
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19
March	100	79	21.3	20.8	43.5	70.18	6.82	10.10	7.41	11.55	31.3	10.89
April	104	80	21.8	20.3	43.4	71.98	7.13	9.90	7.40	11.97	30.4	10.41
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41
June	140	80	20.2	17.8	40.4	74.19	7.08	9.46	7.27	11.95	30.2	8.40
July	144	80	19.9	20.7	40.3	74.15	7.13	9.82	7.16	11.44	30.7	8.58
August	136	80	19.7	23.4	40.3	74.24	7.21	10.37	7.13	11.15	31.2	9.24

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk Cows	Beef Cattle	Veal Calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	101
1915	77	93	103	102	102	118	113	111	115	116	126	94
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
August	132	57	184	153	165	133	117	138	157	196	179	156
September	125	56	180	163	166	134	121	143	163	201	188	159
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163
1927												
January	100	53	188	125	155	141	128	144	149	184	167	156
February	96	54	194	110	161	143	129	149	157	182	168	157
March	92	55	190	97	168	144	129	146	155	186	167	147
April	91	55	190	119	171	146	130	146	146	185	169	137
May	93	56	184	119	170	147	130	142	155	185	169	130
June	114	55	171	107	172	149	130	140	153	190	173	117
July	141	56	167	124	176	151	134	146	157	188	175	118
August	172	57	164	136	171	150	135	151	161	197	175	124

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1926										
August	91	50	139	73	97	3.30	14.70	160	110	128
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115
1927										
January	86	50	131	71	85	3.24	14.00	150	90	115
February	89	51	132	73	86	3.36	14.40	135	87	123
March	87	52	132	76	88	3.24	14.00	120	95	120
April	90	51	126	78	87	3.18	13.50	120	90	125
May	93	54	130	80	91	3.30	13.50	146	100	124
June	106	59	138	88	106	3.54	14.00	200	115	130
July	108	56	138	85	104	3.60	12.60	185	115	130
August	112	55	131	85	100	3.63	11.40	140	120	135

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
August	118	98	145	95	120	134	100	182	159	72
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65
1927										
January	119	111	132	95	120	138	92	234	111	66
February	125	109	132	97	119	144	95	196	100	70
March	123	111	132	99	124	140	90	176	106	68
April	127	104	126	101	119	139	88	174	87	69
May	127	108	130	101	121	140	86	203	88	70
June	141	116	135	110	138	151	86	286	117	72
July	142	110	137	109	124	149	79	268	131	74
August	145	108	136	110	123	148	77	159	174	76

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk which was reported by the Dairymen's League and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
August	26.7	36	45.6	45	2.41	92.00	11.80	5.70	5.70	11.70	35	12.20
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61	59.7	52	2.85	95.00	12.00	5.60	5.60	11.80	37	12.10
1927												
January	25.7	48	46.0	51	2.72	92.00	12.40	5.60	5.80	11.50	35	11.60
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10
March	27.0	27	31.3	51	2.65	100.00	12.20	6.00	6.20	12.20	33	11.60
April	27.7	26	30.9	51	2.49	106.00	11.80	6.00	6.30	12.50	33	11.50
May	27.3	26	29.6	50	2.27	109.00	10.90	6.60	6.20	12.90	33	10.70
June	26.6	25	30.1	48	2.18	113.00	10.80	6.60	6.80	12.60	31	10.00
July	24.6	28	34.9	48	2.29	113.00	11.60	6.20	6.00	12.20	33	9.60
August	24.5	32	42.5	47	.	114.00	12.10	6.30	5.60	11.70	34	10.00

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1926												
August	169	144	148	161	160	162	139	101	133	185	175	158
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149	121	153	149	168	137	103	129	192	176	165
1927												
January	189	126	116	150	143	171	147	106	139	179	159	156
February	186	125	106	155	149	179	152	111	133	181	164	161
March	190	96	121	165	158	179	146	115	145	189	157	149
April	187	124	137	170	171	188	152	112	138	183	157	147
May	183	137	130	172	191	196	148	117	144	197	165	141
June	175	125	123	171	204	199	137	120	160	190	155	135
July	162	127	128	178	182	200	142	114	144	185	157	128
August	155	128	138	168		201	143	112	130	185	170	129

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground Oats	Wh't Bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Diary ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
August	39.37	39.75	35.50	38.06	29.30	32.45	32.30	51.76	41.22	73.80	37.69	42.00
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96
1927												
January	37.94	37.25	35.30	41.79	34.30	35.70	35.60	50.84	38.70	75.80	38.12	41.82
February	37.85	38.65	34.63	40.68	35.06	36.75	36.00	51.43	42.31	79.80	38.91	42.52
March	36.94	38.65	33.00	40.40	34.63	36.38	35.63	50.55	42.50	76.80	38.57	41.92
April	37.63	35.53	32.60	41.48	35.60	36.18	36.10	52.00	41.90	76.80	38.02	41.75
May	42.73	36.75	38.25	45.05	35.75	36.13	37.00	52.50	43.98	76.80	40.01	44.01
June	45.63	42.25	40.50	43.40	33.94	36.63	37.35	51.93	47.04	74.80	41.86	45.68
July	46.40	39.30	40.25	41.60	33.00	38.50		51.80	46.31	80.30	40.65	46.44
August	48.72	38.58	43.50	41.22	34.00	42.10		52.10	46.00	82.80	41.08	47.35

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground Oats	Wheat Bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	...	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
August	125	135	119	114	118	119	123	150	120	141	125	127
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133
1927												
January	138	123	127	135	132	137	132	147	118	146	129	134
February	138	126	125	128	133	140	133	148	132	153	131	135
March	138	132	124	127	132	140	131	152	133	147	133	134
April	135	127	124	129	138	140	136	155	129	147	132	132
May	149	134	140	138	142	141	141	159	134	147	140	138
June	160	153	147	131	146	147	147	162	143	143	148	144
July	157	149	146	124	141	149		160	140	153	144	144
August	154	131	146	124	137	154		151	134	158	137	145

Dr. J. F. Harriott, who has charge of the cost account work at Cornell, finds among the farmers who have cooperated with the New York State College of Agriculture in keeping cost records, that those who have taken a 12 weeks short course at Cornell made labor incomes 44 per cent greater on the average than did the other cooperators who had had no college training. Table 2.

TABLE 2.—EDUCATION AND PROFITS AS SHOWN BY FARMERS KEEPING COST ACCOUNTS WITH THE NEW YORK STATE COLLEGE OF AGRICULTURE AT CORNELL UNIVERSITY, 1919-1926.

	Former Cornell short course students	Farmers with no resident college training
Number of accounts	67	90
Average labor income	$1301	$900

Every year students at Cornell visit and study about 30 of the most profitable farms that can be found in western and central New York. Nearly half of these farms are operated by former Cornell students. The labor incomes of these former Cornell students were twice as large, on the average, as were the labor incomes of the other successful farmers[1] visited.

The farm capital averaged 28 per cent more on farms operated by former Cornell students.

TABLE 3.—EDUCATION AND PROFITS AS SHOWN BY ALL THE FARMS STUDIED IN FARM MANAGEMENT COURSE 103, NEW YORK STATE COLLEGE OF AGRICULTURE AT CORNELL UNIVERSITY, 1920-1926.

	Former Cornell students	Other very successful farmers
Number of records	77	106
Average farm capital	$33,189	$25,813
Average labor income	4,220	1,886
Median labor income	3,628	1,548

The average labor incomes made by the former Cornell student group was unusually large. From 1920 to 1925 inclusive, 1095 labor incomes were taken in one of the most prosperous fruit regions in New York State. Only 14, or 1.2 per cent, of these labor incomes were as large as the average of the former Cornell student group. From 1921 to 1925 Professor Misner obtained 509 records in one of the prosperous dairy regions of New York State. Only 8, or 1.6 per cent, of these labor incomes were as high as the former Cornell student averages.

G. P. Scoville

CHARGES FOR HAULING MILK ON TRUCK ROUTES

The rates charged by 72 commercial haulers for transporting milk from the 1174 farms to 20 milk stations in New York State are shown in table 1.

The rates charged varied from 5 cents to 27.5 cents per 100 pounds, increasing with the distance of the farm from the plant. The wide variations in charges paid by different farmers in the same milage zone are due to differences in road conditions, differences in size of load on the different truck routes and accessibility of the farm to the main route followed by the truck. The minimum and average rates for more distant zones are lowered by the fact that much of the milk was picked up on large platforms, thus reducing the number of stops that had to be made by the trucks. The minimum charge for farms over 12 miles was only one-half as much as the maximum charge for farms in the 1.1 to 2 mile zone.

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[1] While on the way to a very successful farm, the class occasionlly visited an average farm. The non-Cornell group probably includes a few more average farms than the Cornell group.

TABLE 1.—RATES CHARGED FOR HAULING MILK FROM FARMS TO MILK STATIONS, 1924-1925

Distance of farm from milk station*		Number of farms	Rate charged for hauling cents per 100 pounds		Number of farmers who hauled their own milk part way	Average distance (miles)
Range (miles)	Average (miles)		Range	Average		
1 mile or less	0.6	15	5-15.4	10.8	0	0
1.1- 2	1.7	59	6-23.0	11.7	4	0.6
2.1- 3	2.7	102	6-27.0	12.9	11	0.9
3.1- 4	3.6	142	6-21.0	13.9	31	0.8
4.1- 5	4.7	127	6-23.0	14.9	38	0.8
5.1- 6	5.6	147	8-27.5	15.9	59	1.0
6.1- 7	6.7	135	10-25.0	16.1	56	1.2
7.1- 8	7.6	128	10-27.5	16.2	62	1.1
8.1- 9	8.6	120	10-27.5	18.0	47	1.3
9.1-10	9.6	72	10-25.0	17.6	28	1.4
10.1-12	11.0	82	10-27.5	19.9	43	1.6
Over 12	13.3	45	12-27.5	19.8	22	2.9
Total	X	1174	5-27.5	X	401	X
Average	6.3	X	X	15.8	X	1.2

*Distance by most direct route. Distance as hauled was slightly greater.

About one-third of the farmers on these routes hauled their milk some distance to platforms on the main roads. The distance hauled by the farmers increased with their distance from the milk station. Farmers who lived nearer to the milk stations found it more economical to haul their own milk direct to the plant unless it could be picked up by a truck at the door. Many farmers in the outer zones had to haul their milk two miles or more to reach a truck route. In many cases the milk was hauled further than the direct distance from the farm to the plant, due to the circuitous route taken by the truck in picking up the milk and to the necessity of keeping on good roads.

The average length of haul on these routes was 6.67 miles, of which 5.03 miles was on improved roads (hard surfaced) and 1.64 miles on dirt roads. The greatest distance between any farm and the milk station to which the milk was delivered was 15.2 miles.

Several of the haulers charged the same rate on all the milk without regard to distance, but most farmers living within two or three miles of the milk station were able to get lower rates due to the alternative possibility of hauling their milk direct to the plant.

In some instances the company operating the plant paid part of the hauling charges. In other instances where the milk had been diverted from its natural market, the Dairymen's League Cooperative Association paid part of the expense. Seventy-four of the 1174 patrons included in table 1 had a part of their hauling charges paid in this way. These 74 patrons paid only 54.4 per cent of the total charge for hauling their milk.

LELAND SPENCER

PEACH PRICES

The average monthly jobbing prices of peaches per 6 basket carrier at New York City from 1904 to 1926 are given in Table 1. For the five years, 1910-1914, the average June-September season price was $1.68 per 6 basket carrier. The pre-war price during May was $3.19; June $2.10; July $1.73; August $1.57; September $1.33 and October $1.27. There was a gradual decline in prices as the season advanced. The average pre-war price dropped $1.09 from May to June; 37 cents from June to July; 16 cents from July to August; 24 cents from August to September; and 6 cents from September to October.

TABLE 1.—JOBBING PRICES OF PEACHES IN SIX BASKET CARRIERS AT NEW YORK CITY, 1904-1926*

Year	Prices							Index Numbers						
	May	June	July	Aug.	Sept.	Oct.	June-Sept. Ave.	May	June	July	Aug.	Sept.	Oct.	June-Sept. Ave.
1910-14	$3.19	$2.10	$1.73	$1.57	$1.33	$1.27	$1.68	100	100	100	100	100	100	100
1904	2.25	1.52	1.34	1.10	1.40	1.19	1.34	71	72	77	70	105	94	80
1905		1.46	1.26	1.93	1.27	1.65	1.48		70	73	123	95	130	88
1906	3.95	1.85	1.15	1.70	1.83	1.71	1.63	124	88	66	108	138	135	97
1907	3.53	2.61	1.96	2.00	2.41	2.33	2.24	111	124	113	127	181	183	133
1908	2.88	1.24	1.13	1.51	1.47	1.42	1.34	90	59	65	96	111	112	80
1909	3.50	2.14	1.68	1.67	1.55	1.42	1.76	110	102	97	106	117	112	105
1910	2.94	1.75	1.03	1.44	1.42	1.31	1.41	92	83	60	92	107	103	84
1911	2.58	2.20	2.54	2.11	1.42	1.33	2.07	81	105	147	134	107	105	123
1912	4.35	1.92	1.15	1.15	1.27	1.03	1.37	136	91	66	73	95	81	82
1913	2.88	2.45	2.33	1.75	1.38	1.40	1.98	90	117	135	111	104	110	118
1914		2.19	1.61	1.38	1.17	1.28	1.59		104	93	88	88	101	95
1915	2.88	2.30	1.54	1.10	0.82	0.84	1.44	90	110	89	70	62	66	86
1916	2.22	2.19	2.45	2.08	1.46	1.19	2.04	70	104	142	132	110	94	121
1917	4.16	2.50	2.23	2.14	1.34	1.19	2.05	130	119	129	136	101	94	122
1918	2.43	2.39	2.12	2.37	2.95	2.53	2.46	76	114	123	151	222	199	146
1919	4.21	2.38	2.05	2.22	2.94		2.40	132	113	118	141	221		143
1920	4.25	2.60	2.57	2.60	2.65	1.88†	2.60	133	124	149	166	199		155
1921	2.34	2.86	2.36	3.65	2.93		2.95	73	136	136	232	220		176
1922	3.59	2.76	2.47	1.96	1.84	1.34†	2.26	113	131	143	125	138		135
1923		3.52	2.23	1.99	1.85	1.38†	2.40		168	129	127	139		143
1924		2.74	2.22	1.97	2.18	1.70†	2.28		130	128	125	164		136
1925	3.81	3.54	2.23	2.25	2.57	2.33†	2.65	119	169	129	143	193		158
1926		3.40	1.78	1.64	1.39	0.98	2.05		162	103	104	105	77	122

*The prices, tabulated by J. S. Hathcock of the Bureau of Agricultural Economics, United States Department of Agriculture, from the Producers Price Current, are the average of the high and low quotations on Tuesday and Friday irrespective of variety or grade. The six basket carrier contains about 24 quarts or about 80 per cent by weight of the peaches in a bushel basket. Mimeograph report 325.

†Prices are quoted in bushels.

The index numbers of the jobbing prices are also presented in Table 1. During the 5 years, 1922-1926, the June-September prices have averaged only 39 per cent above pre-war prices; June prices, 52 per cent; July prices, 26 per cent; August prices, 25 per cent and September prices, 48 per cent. Apparently June and September peaches have brought relatively better prices than July and August peaches.

August Jobbing Prices

Peaches come on the New York City market from widely scattered areas. The southern states supply the market during the earlier part of the season and New Jersey and New York during the later part of the season.

TABLE 2.—PER CENT DETERMINATION OF AUGUST AND SEPTEMBER JOBBING PRICES OF PEACHES AT NEW YORK CITY, 1905-1924.

	August	September
Previous price ratios	5.7	−0.6
Georgia production	0.7	*
North Carolina production	14.2	*
New Jersey production	37.4	39.1
New York production	*	32.0
United States production	12.6	6.4
Total	70.6	76.9

*Not calculated.

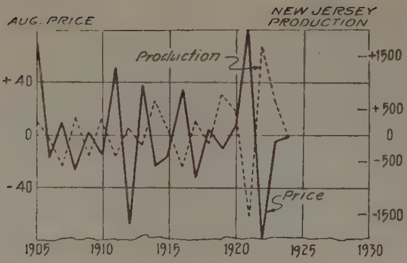

FIGURE 1.—RELATION OF THE NEW JERSEY PRODUCTION OF PEACHES TO AUGUST JOBBING PRICES OF PEACHES AT NEW YORK CITY, 1905-1924.

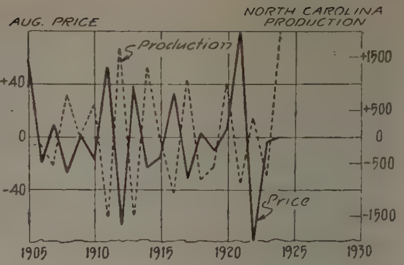

FIGURE 2.—RELATION OF THE NORTH CAROLINA PRODUCTION OF PEACHES TO AUGUST JOBBING PRICES OF PEACHES AT NEW YORK CITY, 1905—1924.

August jobbing prices of peaches at New York City were closely related to the production of peaches in North Carolina and in New Jersey.

The multiple correlation[1] between the August jobbing price, x_1, June-July ratio of prices, x_2; Georgia production, x_3; North Carolina production, x_4; New Jersey production, x_5; and United States production, x_6 is $R_{1.23456} = 0.84$. This indicates that 70.6 per cent of the factors affecting August jobbing prices have been measured, Table 2. The most important factors are the North Carolina production and the New Jersey production. They represent 52 per cent of the factors affecting August prices. Previous prices are relatively unimportant; the June-July ratio represents only 5.7 per cent of the factors affecting August prices.

September Jobbing Prices

The multiple correlation[2] between September jobbing prices of peaches at New York City, x_1; and the ratio of July-August prices, x_2; New York production, x_3; New Jersey production, x_4; and the United States production, x_5; is $R_{1.2345} = 0.877$. This indicates that 76.9 per cent of the factors affecting September prices have been measured. The two most important factors are the New Jersey production and the New York production, which represent 71.1 per cent of the factors affecting September prices, Table 2. Previous prices, that is, the ratio of prices in July and August, have no influence on September prices. The United States production

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[1] GROSS AND MULTIPLE CORRELATIONS BETWEEN FIRST DIFFERENCES OF THE AUGUST JOBBING PRICES OF PEACHES IN NEW YORK CITY AND THE PRODUCTION OF PEACHES IN THE UNITED STATES, GEORGIA, NORTH CAROLINA, AND NEW JERSEY AND THE RATIO OF THE JUNE-JULY PRICES, 1905-1924.

x_1 = August jobbing prices of peaches per 6 basket carrier in New York City; x_2 = Ratio of jobbing prices during June-July; x_3 = Georgia production; x_4 = North Carolina production, x_5 = New Jersey production; and x_6 = United States production.

Gross correlations	Multiple correlation
$r_{12} = -0.45$	
$r_{13} = -0.33$	
$r_{14} = -0.61$	
$r_{15} = -0.74$	$R_{1.23456} = 0.840$
$r_{16} = -0.72$	

[2] GROSS AND MULTIPLE CORRELATIONS BETWEEN FIRST DIFFERENCES OF THE SEPTEMBER JOBBING PRICES OF PEACHES IN NEW YORK CITY AND THE PRODUCTION OF PEACHES IN THE UNITED STATES, NEW YORK, NEW JERSEY, AND THE RATIO OF JULY-AUGUST PRICES, 1905-1924.

x_1 = September jobbing prices of peaches per 6 basket carrier in New York City; x_2 = Ratio of jobbing prices of peaches during July-August; x_3 = New York production, x_4 = New Jersey production; and x_5 United States production.

Gross correlations	Multiple correlation
$r_{12} = -0.15$	
$r_{13} = -0.69$	
$r_{14} = -0.74$	$R_{1.2345} = 0.877$
$r_{15} = -0.67$	

also plays an unimportant rôle. It represents only 6 per cent of the factors influencing September prices.

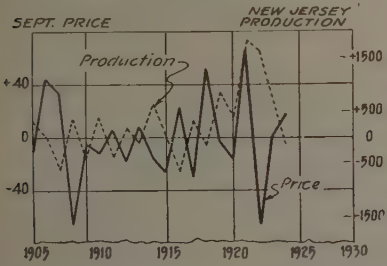

FIGURE 3.—RELATION OF NEW JERSEY PRODUCTION OF PEACHES TO SEPTEMBER JOBBING PRICES AT NEW YORK CITY, 1905-1924.

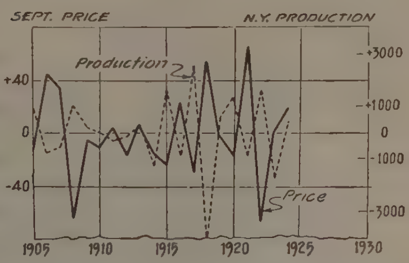

FIGURE 4.—RELATION OF NEW YORK PRODUCTION OF PEACHES TO SEPTEMBER JOBBING PRICES AT NEW YORK CITY, 1905-1924.

September prices of peaches at New York City were closely related to the production of peaches in New York and in New Jersey.

Effect of Supply on Prices

From 1915 to 1925, when the United States crop was 20 per cent below normal the United States farm price was 7 per cent above normal. When the crop was 20 per cent above normal the price was 5 per cent below normal.

The monthly prices of peaches are more affected by the crop in different areas than by the size of the United States production. When the Georgia crop was 20 per cent below normal the July jobbing price of peaches at New York City was 9 per cent above normal. When the crop was 20 per cent above normal, the price was 7 per cent below normal.

Effect of size of New York Peach Crop on Relationship of Farm and Wholesale Prices

In the 7 years when the Georgia peach crop was large, July jobbing prices at New York City were $2.12 per bushel and the Georgia farm price was $1.33. The difference was 79 cents. When the crop was small, the New York City jobbing price was $2.15 and the Georgia farm price was $1.54. The difference was 61 cents. The spread between the New York City jobbing price and the Georgia farm price was 61 cents for high-priced peaches and 79 cents for cheap peaches. Apparently it takes more per unit to distribute a large crop than a small one.

TABLE 3.—RELATION OF SIZE OF THE GEORGIA PEACH CROP TO JULY PRICES, 1911-1924

	7 small crops	7 large crops	Difference
Jobbing price			
New York City	$2.15	$2.12	$0.03
Farm price			
Georgia	1.54	1.33	0.21
Difference	0.61	0.79	

In 6 years, when the peach crop in New York State was small, September jobbing prices of peaches at New York City were $2.21 and the farmers in Newfane Township, Niagara County, received $1.73. The difference was 48 cents, Table 4. In six years of large crops, the New York City jobbing price dropped to $1.61 and the Newfane farm price dropped to 93 cents. The difference was 68 cents. As in the previous case, it takes more to get cheap peaches through the channels of trade than to get high-priced ones through.

TABLE 4.—RELATION OF THE SIZE OF THE NEW YORK PEACH CROP TO FARM PRICES PER BUSHEL, IN NEWFANE TOWNSHIP, NIAGARA COUNTY, NEW YORK AND SEPTEMBER JOBBING PRICES AT NEW YORK CITY, 1913–1924.

	6 small crops	6 large crops	Difference
Jobbing price			
New York City	$2.21	$1.61	$0.60
Farm price			
Newfane Township	1.73	0.93	0.80
Difference	0.48	0.68	

G. F. Warren and F. A. Pearson

LABOR REQUIREMENTS FOR PLOWING[1]

Among the many factors that influence the time required to plow an acre of land are the size of the field, the kind and size of the power unit used, and whether the land is sod or stubble.

In plowing small fields, considerable time is lost in making the turns. If fields are both small and irregular, labor efficiency in plowing is further reduced. Large rectangular fields reduce to a minimum the time lost in making turns and in plowing the headlands.

Two-horse teams walk more slowly and stop oftener than three-horse teams. Most tractors pulling two plows travel faster than horses. Further, no time is required for resting when a tractor is used.

To plow one acre of sod with a two-horse team takes from 5½ to 7½ hours With a three-horse team drawing a single plow, it takes from 5 to 6 hours. With a Fordson tractor and a two-bottom plow it takes from 2 to 3½ hours.

TABLE 1.—HOURS OF MAN LABOR REQUIRED TO PLOW ONE ACRE OF SOD

Size of field*	With two horses	With three horses (1 plow)	With Fordson tractor (2 plows)
under 5 acres	7.6	6.0	3.4
5-10 acres	5.8	5.3	2.8
over 10 acres	—	—	2.2
all fields	6.8	5.9	2.9

*61 fields under 5 acres averaged 2.84 acres; 35 fields from 5 to 10 acres averaged 6.95 acres; and 21 fields over 10 acres averaged 14.69 acres.

Although a three-horse team plows more in a day than a two-horse team, the cost per acre for plowing is higher with the three horses. The cost of the third horse is greater than the saving in the cost of man labor. However, if a third horse would otherwise be idle, it is good practice to use it on the plow. The saving in time by using three horses may result in earlier planting or in the planting of a larger acreage thus increasing the possibilities for larger returns.

TABLE 2.—COST OF PLOWING ONE ACRE OF SOD*

Size of field	With two horses	With three horses (1 plow)	With Fordson tractor (2 plows)
under 5 acres	$7.30	$7.44	$4.15
5-10 acres	$5.57	$6.57	$3.42
over 10 acres	——	——	$2.68
all fields	$6.53	$7.32	$3.54

*Rates for labor and equipment are based on cost accounts on 32 farms for 1925 and are as follows: man labor $.40 per hour; horse labor $.17 per hour; equipment use $.11 per hour (of horse labor); Fordson and plows $.82 per hour.

Stubble is easier to plow than sod. Furthermore, it is not so important that the job of plowing be so well done on stubble as on sod. From one-half to one hour less of man labor is required per acre on stubble. Under conditions that are typical of the better dairy farms in New York, the number of acres of stubble plowed in a ten-hour day averages about as follows: with two horses from 1.5 to 1.6 acres; with three horses, from 1.8 to 2.0 acres; with a Fordson tractor and two plows, from 4.0 to 4.5 acres.

---

[1] Based on 125 farm cost accounts for the years 1923 to 1926 inclusive.

TABLE 3.—HOURS OF MAN LABOR REQUIRED TO PLOW ONE ACRE OF STUBBLE

Size of field*	With two horses	With three horses (1 plow)	With Fordson tractor (2 plows)
under 5 acres	6.6	5.5	2.5
5-10 acres	6.3	4.7	2.2
over 10 acres	—	—	2.4
all fields	5.8	5.3	2.4

*75 fields under 5 acres averaged 2.43 acres. 56 fields from 5 to 10 acres averaged 6.88 acres. 61 fields over 10 acres averaged 15.2 acres.

Custom rates for tractor plowing vary from $2.50 to $4.00 an acre, depending more on topography and soil types than on the sod or stubble basis. Stubble furnishes better traction than sod and reduces the time required for tractor plowing. On the cost basis, rates for plowing sod should be somewhat higher than for plowing stubble.

TABLE 4.—COST OF PLOWING ONE ACRE OF STUBBLE*

Size of field	With two horses	With three horses (1 plow)	With Fordson tractor (2 plows)
under 5 acres	$6.34	$6.82	$3.05
5-10 acres	$6.05	$5.83	$2.68
over 10 acres	——	——	$2.93
all fields	$5.57	$6.57	$2.93

*See note Table 2 for labor rates used.

R. D. Reid and J. K. Harriott

CANADIAN HAY AS A FACTOR IN THE MARKET SITUATION

The data used in this article are from a study carried on by the Department of Agricultural Economics and Farm Management of the New York State College of Agriculture in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture.

Since 1910, imports of Canadian hay to the United States have varied in different crop years from about five thousand to over three-quarters of a million tons. In 11 out of the 16 years between 1910 and 1925, imports were more than 100,000 tons. In seven years they were from three to eight times that amount. The importance of Canadian competition can best be judged by comparison with rail movements within the United States, as shown in Table 1. Imports have been increasing since 1921 in spite of an increase in tariff in October 1922 (from $2 to $4 a gross ton). In 1923 and again in 1925, the import movement nearly equalled the total shipments originating in New York State. The present tariff of $4 is the same rate which applied from 1910 to 1913.

TABLE 1.—IMPORTS AND CARLOAD SHIPMENTS OF HAY

Year	Shipments	Shipments	Shipments	Imports	Imports	Total imports	
beginning July 1	Tons originating in United States	Tons originating in Eastern District	Tons originating in New York	Tons	Northeastern United States Tons	Per cent of United States movement	Per cent of New York movement
1918	8,241,125	3,075,048	604,127	310,742		3.77	51.44
1919	7,483,108	2,613,325	586,385	251,946		3.37	42.97
1920	7,957,363	2,529,696		126,185	124,517	1.59	
1921	5,153,558	2,114,403		5,357	4,520	0.10	
1922	5,723,143	2,378,251		35,430	35,046	0.62	
1923	5,965,015	2,398,174	429,315	403,478	399,109	6.76	93.98
1924	5,802,408	2,331,887	468,982	119,141	118,999	2.05	25.40
1925	5,506,935	1,992,769		430,958	430,767	7.83	

From 1910 to 1920, Canadian competition was of importance chiefly in connection with the timothy hay trade in large city markets. Investigation into the animal population in cities shows that this class of demand has shrunk to about 30 per cent of what it was in 1910, principally as a result

TABLE 2.—QUEBEC FARM PRICE, TARIFF, AND IMPORTS OF HAY INTO THE UNITED STATES

Year beginning July 1	Farm price, Dec. 1 Quebec[1]	Tariff[2] Dec. 1	Total imports[3] (thousands of tons)
1910	$9.29	$4.00	377
1911	10.17	4.00	783
1912	9.36	4.00	175
1913	12.08	2.00	191
1914	14.08	2.00	23
1915	15.89	2.00	48
1916	11.00	2.00	65
1917	9.58	2.00	460
1918	15.75	2.00	311
1919	20.54	2.00	252
1920	29.00	2.00	126
1921	29.00	2.00	5
1922	14.00	4.00	35
1923	11.00	4.00	403
1924	11.00	4.00	119
1925	8.73	4.00	431

[1] Monthly Bulletin of Agricultural Statistics (Dominion Bureau of Statistics).

[2] United States Tariff Commission. Agricultural Staples and the Tariff. (Tariff Information Series No. 20), and Tariff Act of 1922. The decrease was effective October 4, 1913.

[3] Year books of the United States Department of Agriculture.

of the displacement of horses by motor vehicles. Canadian competition for this trade is therefore relatively more important than ever, and is also an increasingly serious factor in farm markets, particularly in New England. Most of the imports originate in Quebec, but Ontario is supplying a considerable amount of alfalfa, the production of which in that province has increased from about 400,000 tons in 1920 to 1,397,500 tons in 1925.

The immediate future of hay prices is probably more closely tied up with the amounts of the surpluses above consumption requirements on general farms, than with the costs of production on farms where hay is grown specifically as a market crop. Surpluses of this sort tend to be thrown on the market almost regardless of price.

TABLE 3—PRODUCTION
(Thousands of tons)

Year beginning July 1	New York[1]	New England[1]	Canada[2]	Ontario[2]	Quebec[2]
1910	6,376	4,816	11,304	4,418	4,727
1911	4,879	4,245	13,989	4,721	6,260
1912	5,969	4,771	12,117	5,406	3,792
1913	5,421	4,133	10,859	3,941	4,069
1914	5,665	4,477	10,259	3,615	3,575
1915	5,562	4,497	10,612	4,068	3,682
1916	7,151	5,682	14,527	6,118	5,224
1917	6,413	5,513	13,685	5,097	5,065
1918	5,430	4,067	14,772	4,597	6,800
1919	6,998	4,437	16,348	5,589	6,449
1920	6,198	3,992	13,339	4,459	5,363
1921	5,032	3,423	11,366	3,954	4,205
1922	6,902	4,481	14,488	5,568	5,397
1923	6,767	4,555	14,845	5,799	5,666
1924	7,327	4,494	14,960	5,615	6,087
1925	6,797	4,687	16,141	5,233	6,703

[1] Yearbooks of the United States Department of Agriculture.

[2] Monthly Bulletin of Agricultural Statistics (Dominion Bureau of Statistics).

Since Quebec prices, on account of the barriers of distance and the tariff, are more violently affected than New York prices in years of large production, the movement in such years (for example, 1924) is larger than would be expected on the basis of the New York State prices. Production statistics for the period 1910-1925 (shown in table 3) give no indication of decreased production. On the other hand, horses and total cattle show a decrease, although the number of dairy cows in Quebec has increased slightly since 1920. With the existing tariff, imports of Canadian hay will probably continue to increase, with the consequent tendency to hold New York farm prices to a low level.

M. F. THURSTON

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management

NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No.48 OCTOBER, 1927

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm Prices		United States Prices of Food		Cost of living United States[4]	Weekly earnings N. Y. factory workers[5]	Prices of 70 indust'l stocks[6]	Interest rates 4-6 mos. comm'l. paper[7]
		New York[2]	United States[2]	Farm[3]	Retail[3]				
1913	102	97	99	100	103	100		96	115
1914	100	103	101	105	106	103	101	96	99
1915	103	100	101	106	107	105	104	119	71
1916	129	116	119	117	117	118	116	152	71
1917	180	170	180	181	156	142	132	140	98
1918	198	186	206	200	180	174	164	130	121
1919	210	206	215	213	194	199	190	160	112
1920	230	217	214	207	207	200	227	144	153
1921	150	144	119	130	163	174	207	118	135
1922	152	134	124	121	150	170	202	146	92
1923	157	142	137	124	154	173	220	155	102
1924	152	128	140	126	153	173	223	166	81
1925	162	147	154	152	169	178	228	221	83
1926	154	156	142	154	174	176	234	247	88
Jan., 1926	159	158	150	157	174		234	252	99
Feb.	158	156	150	156	175		230	255	100
Mar.	154	158	145	154	177		234	239	97
Apr.	154	171	146	158	180		233	232	96
May	155	176	145	161	179		231	233	93
June	155	176	146	161	177	175	234	242	87
July	154	163	143	156	172		232	249	81
Aug.	152	150	140	147	169		233	256	79
Sept.	154	148	140	148	171		236	254	78
Oct.	153	140	134	148	171		237	246	81
Nov.	151	150	135	151	170		235	250	85
Dec.	150	145	133	150	169	176	238	256	87
Jan., 1927	150	142	130	145	171		237	252	96
Feb.	149	142	132	145	171		237	258	95
Mar.	148	142	131	142	172		240	261	90
Apr.	147	147	130	143	172		235	264	93
May	147	167	132	146	172		235	273	94
June	146	172	134	149	172	173	235	275	93
July	147	161	137	148	167		233	280	85
August	149	148	139	145	165		236	290	74
September			146					300	

(For footnotes see next page.)

BUSINESS CONDITIONS

There has been considerable recession in industrial activity throughout the summer. Railroad earnings are less than a year ago. There has been more than a seasonal decline in automobile production. Business failures have been on the increase. During the first 8 months of this year employment and pay-roll totals were about 2 per cent less than a year ago. Business is still active, but less so than last year.

The stock market continues to advance and in September was three times the pre-war level.

Wholesale prices, which turned upward during June, have advanced throughout the summer.

Farm Prices in the United States

The index number of prices of all farm products rose from 139 in August, to 146 in September.

The salient feature of the agriculture situation in September was the spectacular rise in the price of cotton. Apparently, the farmers will receive more for 12,500,000 bales than they did last year for 18,500,000 bales.

The index number of most grain crops fell in September, while livestock and its products advanced. Corn, wheat, barley, buckwheat, flaxseed, beans, potatoes, sweet potatoes, horses, chickens, and butter fell; while oats, cotton, hay, apples, eggs, milk cows, beef cattle, veal calves, sheep, lambs, wool and hogs advanced.

The average prices of food products sold by American farmers this year have been lower than last year. September prices of corn, oats, barley, apples and beef are considerably higher than last year. Eggs, potatoes and hogs are considerably lower. Wheat and butter are about the same as last year.

If September prices are an indication of the returns to be expected from the present harvest, food producers will be in about the same position as last year. Those who sell beef cattle, corn, oats and spring wheat are in a better position than last year. Those who sell apples, and have a crop, will be better off. Milk is paying better than last year, but hogs and poultry are not paying so well. Cotton is paying better than last year. Cotton has been primarily responsible for raising the index number of prices of all farm products from 139 in August to 146 in September.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923 Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February 1927.

[4] Reported by the United States Bureau of Labor Statistics, 1913 = 100. Monthly Labor Review Vol. XXIV, No. 2, p. 168, February 1927.

[5] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[6] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[7] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

Farm Prices in New York State

The August index number of farm prices was 148. Prices of apples are rising and potatoes are falling. Nearby hennery white eggs are selling on a much better basis than in the spring and summer. August milk prices are somewhat higher than a year ago.

The United States commercial apple crop is about 60 per cent of last year's crop, the Northwestern crop,[1] about 85 per cent, and the New York crop less than 50 per cent of the 1926 crop.

The production of milk per cow in New York State from June to September averaged 20.0 pounds, which, compared with 19.2 pounds a year ago, is an increase of about 4.5 per cent.

From June to September, the number of hens on farms of crop reporters in New York State averaged 6 per cent above last year.

The low price of eggs last spring seems to have reduced production, so that prices have improved. It is probable that there are still enough hens in the country so that eggs will be cheap in the spring. For 9 months, eggs were cheap compared with the price of feed. September prices were higher than feed prices.

The failure to raise heifer calves in the years when milk was very cheap is having a striking effect on the price of dairy cows. Cows in New York State are now worth about double pre-war prices. Dairymen can expect better prices for milk for the remainder of this year. Presumably, milk will command good prices in the fall, until the shortage of cows is made up by the heifer calves now being raised. Probably too many will be raised so that a surplus of cows may be expected before many years.

Wholesale Prices of Feed

Feed prices advanced rapidly in the summer, due to the very unfavorable outlook for corn. The recent hot weather has stopped the advance. The decline in the December future prices of corn from $1.04, September 26, to $0.92, October 1, indicates that the weather throughout the Cornbelt has been favorable for the maturing of late corn. Every day of good weather increases the number of bushels of merchantable corn.

The average wholesale price of corn meal per ton in September was $3.57 less than in August. Meat scrap declined about $1.50 per ton. Gluten advanced $2.02; hominy, $1.00; and cottonseed meal, $1.10.

In September, the price of a poultry ration normally advances 33 cents per ton over August. This year, it dropped $2.24 per ton. The average wholesale price of a poultry ration in September was $45.11, which is 37 per cent above pre-war prices.

During September, the average wholesale price of a dairy ration normally advances 39 cents per ton above the August price. This year, it advanced only 23 cents. In September the average wholesale price of a dairy ration was $41.31. This was only 36 per cent above pre-war. Compared with milk, feed is cheap.

G. F. Warren and F. A. Pearson

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[1] Idaho, Washington and Oregon.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
September	76.2	35.6	117.7	52.9	90.4	211.3	3.02	16.8	12.88	...	130.6	153.9
October	74.5	39.0	121.4	54.4	86.5	197.5	2.86	11.7	13.08	...	126.4	110.6
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	...	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	...	137.0	94.0
1927												
January	64.3	42.6	122.2	58.0	83.6	193.0	2.99	10.6	13.38	...	139.1	97.8
February	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	...	134.1	109.0
March	65.2	43.4	120.9	62.2	86.0	195.1	2.76	12.5	13.48	...	127.0	112.3
April	65.6	43.2	117.2	64.1	85.1	196.1	2.86	12.3	13.26	...	126.6	112.8
May	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	...	146.0	118.9
June	88.9	48.0	130.1	76.3	98.8	204.7	3.23	14.8	13.10	...	191.0	136.0
July	92.4	46.3	127.4	71.4	101.0	198.4	3.35	15.5	11.71	...	183.1	136.4
August	97.7	44.4	123.5	69.0	98.1	203.7	3.45	17.1	9.97	...	146.3	146.7
September	95.3	43.9	119.2	69.5	92.3	197.1	3.26	22.5	10.51	...	107.4	121.9

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	169
1919	242	174	244	171	214	238	195	239	173	183	200	173
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1926												
September	104	91	135	90	121	124	132	138	111	...	162	165
October	106	100	139	90	119	118	127	97	113	...	183	130
November	104	103	140	93	117	121	133	91	114	...	236	116
December	110	106	143	93	117	127	134	82	109	...	226	130
1927												
January	110	111	140	95	118	119	133	86	114	...	222	125
February	112	110	138	96	119	115	132	94	114	...	204	131
March	108	108	136	99	122	112	127	101	112	...	190	128
April	106	107	132	100	118	113	131	99	110	...	186	121
May	113	110	137	105	121	117	130	110	108	...	210	122
June	131	115	143	118	131	117	140	117	106	...	275	142
July	134	111	146	116	128	119	146	122	98	...	246	149
August	138	111	145	120	126	119	150	137	86	...	165	152
September	130	112	136	118	124	115	142	184	90	...	134	131

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
September	88	78	21.4	31.5	40.9	66.12	6.48	10.06	7.13	11.32	32.6	12.07
October	80	77	20.8	36.8	41.8	66.26	6.43	10.29	6.93	11.31	31.6	12.06
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97
1927												
January	97	73	20.1	36.9	44.0	66.77	6.45	9.75	6.87	10.65	30.9	10.97
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19
March	100	79	21.3	20.8	43.5	70.18	6.82	10.10	7.41	11.55	31.3	10.89
April	104	80	21.8	20.3	43.4	71.98	7.13	9.90	7.40	11.97	30.4	10.41
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41
June	140	80	20.2	17.8	40.4	74.19	7.08	9.46	7.27	11.95	30.2	8.40
July	144	80	19.9	20.7	40.3	74.15	7.13	9.82	7.16	11.44	30.7	8.58
August	136	80	19.7	23.4	40.3	74.24	7.21	10.37	7.13	11.15	31.2	9.24
September	131	78	19.4	29.4	41.7	76.10	7.42	10.78	7.06	11.14	31.2	9.78

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	101
1915	77	93	103	102	102	118	113	111	115	116	126	94
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
September	125	56	180	163	166	134	121	143	163	201	188	159
October	116	56	176	165	162	133	121	146	161	206	185	163
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163
1927												
January	100	53	188	125	155	141	128	144	149	184	167	156
February	96	54	194	110	161	143	129	149	157	182	168	157
March	92	55	190	97	168	144	129	146	155	186	167	147
April	91	55	190	119	171	146	130	146	146	185	169	137
May	93	56	184	119	170	147	130	142	155	185	169	130
June	114	55	171	107	172	149	130	140	153	190	173	117
July	141	56	167	124	176	151	134	146	157	188	175	118
August	172	57	164	136	171	150	135	151	161	197	175	124
September	187	56	163	152	169	154	139	153	162	198	180	129

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1926										
September	89	48	130	69	94	3.18	14.10	155	75	128
October	88	49	132	71	86	3.24	14.00	130	60	130
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115
1927										
January	86	50	131	71	85	3.24	14.00	150	90	115
February	89	51	132	73	86	3.36	14.40	135	87	123
March	87	52	132	76	88	3.24	14.00	120	95	120
April	90	51	126	78	87	3.18	13.50	120	90	125
May	93	54	130	80	91	3.30	13.50	146	100	124
June	106	59	138	88	106	3.54	14.00	200	115	130
July	108	56	138	85	104	3.60	12.60	185	115	130
August	112	55	131	85	100	3.63	11.40	140	120	135
September	113	51	129	82	96	3.66	10.90	125	130	127

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
September	110	98	135	91	124	129	93	174	121	72
October	111	104	136	95	116	133	92	188	98	74
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65
1927										
January	119	111	132	95	120	138	92	234	111	66
February	125	109	132	97	119	144	95	196	100	70
March	123	111	132	99	124	140	90	176	106	68
April	127	104	126	101	119	139	88	174	87	69
May	127	108	130	101	121	140	86	203	88	70
June	141	116	135	110	138	151	86	286	117	72
July	142	110	137	109	124	149	79	268	131	74
August	145	108	136	110	123	148	77	159	174	76
September	140	104	134	108	126	148	72	140	210	72

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
September	26.2	41	54.6	47	2.61	96.00	12.20	5.70	5.90	11.70	36	12.50
October	25.0	47	69.5	48	2.63	95.00	12.70	5.70	5.60	12.10	36	12.20
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61	59.7	52	2.85	95.00	12.00	5.60	5.60	11.80	37	12.10
1927												
January	25.7	48	46.0	51	2.72	92.00	12.40	5.60	5.80	11.50	35	11.60
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10
March	27.0	27	31.3	51	2.65	100.00	12.20	6.00	6.20	12.20	33	11.60
April	27.7	26	30.9	51	2.49	106.00	11.80	6.00	6.30	12.50	33	11.50
May	27.3	26	29.6	50	2.27	109.00	10.90	6.60	6.20	12.90	33	10.70
June	26.6	25	30.1	48	2.18	113.00	10.80	6.60	6.80	12.60	31	10.00
July	24.6	28	34.9	48	2.29	113.00	11.60	6.20	6.00	12.20	33	9.60
August	24.5	32	43.3	47	2.47	114.00	12.10	6.30	5.60	11.70	34	10.00
September	24.8	40	52.3	49		113.00	12.80	6.60	5.70	11.60	35	10.60

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1926												
September	168	152	149	157	164	168	140	101	145	190	171	157
October	161	157	154	155	147	170	143	100	138	202	171	154
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149	121	153	149	168	137	103	129	192	176	165
1927												
January	189	126	116	150	143	171	147	106	139	179	159	156
February	186	125	106	155	149	179	152	111	133	181	164	161
March	190	96	121	165	158	179	146	115	145	189	157	149
April	187	124	137	170	171	188	152	112	138	183	157	147
May	183	137	130	172	191	196	148	117	144	197	165	141
June	175	125	123	171	204	199	137	120	160	190	155	135
July	162	127	128	178	182	200	142	114	144	185	157	128
August	155	128	141	168	164	201	143	112	130	185	170	129
September	159	148	143	163		197	147	117	140	188	167	134

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
September	38.85	39.15	35.88	38.23	29.31	30.25	31.00	50.33	39.63	73.80	37.10	40.70
October	38.89	36.65	35.38	41.23	29.53	30.44	31.00	50.15	35.25	75.80	36.37	41.20
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96
1927												
January	37.94	37.25	35.30	41.79	34.30	35.70	35.60	50.84	38.70	75.80	38.12	41.82
February	37.85	38.65	34.63	40.68	35.06	36.75	36.00	51.43	42.31	79.80	38.91	42.52
March	36.94	38.65	33.00	40.40	34.63	36.38	35.63	50.55	42.50	76.80	38.57	41.92
April	37.63	35.53	32.60	41.48	35.60	36.18	36.10	52.00	41.90	76.80	38.02	41.75
May	42.73	36.75	38.25	45.05	35.75	36.13	37.00	52.50	43.98	76.80	40.01	44.01
June	45.63	42.25	40.50	43.40	33.94	36.63	.....	51.93	47.04	74.80	41.86	45.68
July	46.40	39.30	40.25	41.60	33.00	38.50	.....	51.80	46.31	80.30	40.65	46.44
August	48.72	38.58	43.50	41.22	34.00	42.10	.....	52.10	46.00	82.80	41.08	47.35
September	45.15	40.60	44.50	41.95	33.63	37.63	.....	52.30	47.10	81.30	41.31	45.11

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	...	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
September	119	128	115	119	118	111	116	142	116	140	122	122
October	126	127	120	133	125	118	119	145	110	142	126	127
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133
1927												
January	138	123	127	135	132	137	132	147	118	146	129	134
February	138	126	125	128	133	140	133	148	132	153	131	135
March	138	132	124	127	132	140	131	152	133	147	133	134
April	135	127	124	129	138	140	136	155	129	147	132	132
May	149	134	140	138	142	141	141	159	134	147	140	138
June	160	153	147	131	146	147		162	143	143	148	144
July	157	149	146	124	141	149		160	140	153	144	144
August	154	131	146	124	137	154		151	134	158	137	145
September	138	133	142	130	136	139		148	138	154	136	137

APPLE PRICES

Prices Paid to Producers of Apples in Niagara County

The index numbers of prices paid to producers in Niagara County for cider apples, other apples and all apples[1], from 1913 to 1926, inclusive, are shown in Figure 1. In 1917, New York State produced only 40 per cent as many apples as in 1918, and the price of barreled apples rose from 103 to 165 per cent of pre-war, whereas, cider apples rose from 125 to 305 per cent of pre-war. Apparently, apples were scarce, so that cull apples sold at a very high price.

In 1919, the New York apple crop was only 35 per cent of the previous crop, and the index number of barreled apples rose from 162, in 1918, to 245, whereas, cider apples rose from 158 to 398, per cent of pre-war.

There are wide variations in grades of apples. The weighted farm price of all apples except ciders, sold by Niagara County farmers, is normally 4.3 times as much as cider apples. Prices of cider apples, however, fluctuate much more violently than do prices of other apples.

Effect of Supply on Prices

The supply-price curves are shown in figure 2. When the New York production of apples was 20 per cent below normal, the price of cider apples was 22 per cent above normal, and of all others, 12 per cent. When the crop was 20 per cent above normal, the price of cider apples was 15 per cent below normal, and of all others, only 9 per cent below normal. When the crop was very large, apples for cider mills and evaporators brought very little, because cider and evaporator apples are a by-product, or culls of graded fruit and will be sold even if they bring but little more than handling costs.

TABLE 1.—EFFECT OF SIZE OF THE UNITED STATES APPLE CROP ON WHOLESALE PRICES OF APPLES AT NEW YORK CITY, 1898-99 to 1914-15*

	Crop 20 per cent below normal	Crop 20 per cent above normal
	Per cent that prices were above normal	Per cent that prices were below normal
Sixteen varieties	17	12
Baldwin	18	12
Greening	20	14
King	16	11
Ben Davis	15	11
Northern Spy	12	9

* The data for sixteen varieties are based on the period, 1894-95 to 1914-15.

The relation of the United States apple crop to wholesale prices of 16 varieties of apples at New York City, is shown in table 1. When the United States crop was 20 per cent below normal, the wholesale price of 16 varieties at New York City was 17 per cent above normal. When the crop was 20 per cent above normal, wholesale prices were 12 per cent below normal.

The demand for apples is more elastic than the demand for potatoes. Before the war, a United States potato crop 20 per cent below normal, sold at wholesale in New York City at 48 per cent above normal. A 20 per cent shortage in the apple crop resulted in a 17 per cent advance in

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[1] Warren, G. F., Scoville, G. P., Pearson, F. A., Spencer, L., and Rasmussen, M. P. The Apple Situation in New York State A preliminary report, p. 10, 1927.

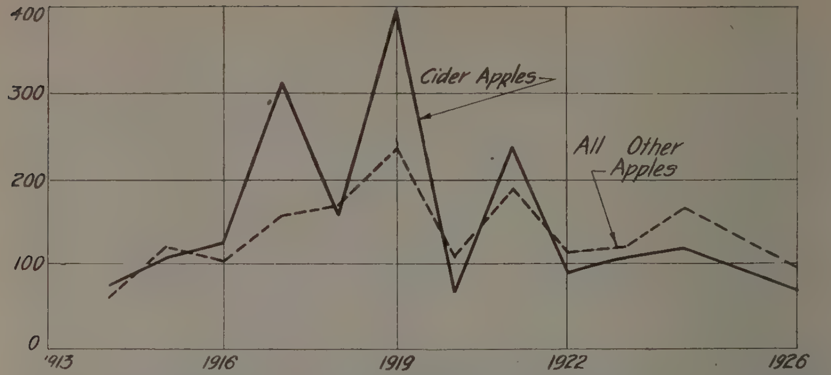

FIGURE 1.—INDEX NUMBERS OF WEIGHTED PRICE RECEIVED BY NIAGARA COUNTY FRUIT GROWERS FOR CIDER APPLES AND ALL OTHER APPLES, 1913-1925, INCLUSIVE.

Cider apples fluctuate more violently than the prices of other apples.

the wholesale prices of apples at New York City. Probably a 10 per cent drop in the price of apples stimulates consumption more than a 10 per cent drop in the price of potatoes. Conversely, a 10 per cent advance in the price of apples curtails consumption more than a 10 per cent advance in the price of potatoes.

The prices of important varieties respond in about the same way, to changes in the size of the crop. There seems to be a tendency for prices of Greenings and Baldwins to fluctuate more violently than the average prices for the 16 varieties.

The price of apples fluctuates more with changes in supply, than do prices of bananas, Figure 3.

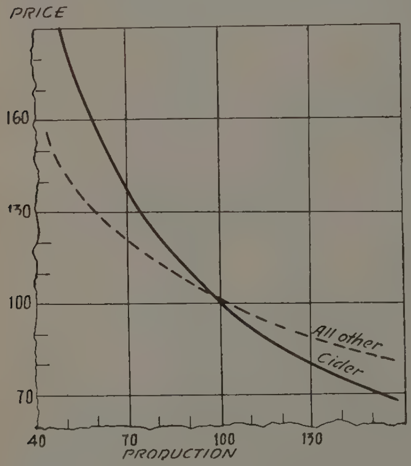

FIGURE 2.—RELATION OF NEW YORK PRODUCTION OF APPLES TO PURCHASING POWER OF PRICE PAID TO GROWERS IN NIAGARA COUNTY FOR CIDER APPLES AND OTHER APPLES, 1913-1925.

When the New York apple crop is small, cider apples sell at relatively higher prices than other apples.

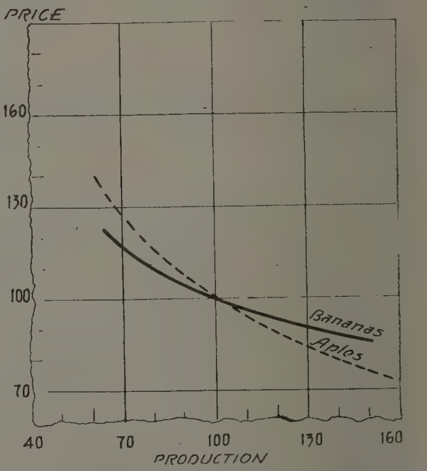

FIGURE 3.—RELATION OF THE UNITED STATES PRODUCTION OF APPLES TO THE PURCHASING POWER OF THE AVERAGE WHOLESALE PRICE OF 16 VARIETIES OF APPLES AT NEW YORK, 1894-95 TO 1914-15, AND THE NET SUPPLY OF BANANAS AND THE PURCHASING POWER OF THE WHOLESALE STORE PRICE OF JAMAICA 9's & 1'sts AT NEW YORK CITY, 1897-1914.

When the supply of bananas is 20 per cent below normal, the price is 9 per cent above normal, whereas the price of apples is 17 per cent above normal.

Effect of Supply on the Relationship of Farm Prices

When there is a very large crop, the price in a surplus area is so reduced that the spread between farm and retail prices is increased.

Farm prices of apples in deficit states, such as Rhode Island, although not retail prices, reflect their changes. A comparison of New York and Rhode Island prices is shown in table 2.

In nine years when the apple crop was less than normal, the Rhode Island farm price was 23 cents above New York farm price. In seven years when the apple crop was large, the Rhode Island farm price was 28 cents above the New York farm price. A surplus depresses prices in the producing centers so that it costs more to get the cheap apples to market than the high-priced ones.

The principle that the channels of trade takes a larger part of the price of a large crop than of a small crop, is not restricted to apples. In eleven years, when the United States potato crop was small, the spread between the farm price at Batavia, New York, and Rhode Island, was 27 cents. In ten large-crop years, the spread was 31 cents. In twenty years when the hay crop was small, the spread between the Ohio farm price and the Georgia farm price was $4.94. In twenty large-crop years, the spread was $6.37. In twenty years when the United States corn crop was small, the Chicago price of corn was 13 cents above the Iowa farm price, and in twenty years when the crop was large, the spread was 14 cents.

TABLE 2.—RELATION OF SIZE OF THE UNITED STATES APPLE CROP TO DECEMBER FARM PRICES OF APPLES, 1910-1925.

	9 small crops	7 large crops	Difference
Rhode Island	$1.07	$0.92	$0.15
New York	0.84	0.64	0.20
Difference	.23	.28	——

One would assume that a large crop could be passed through the channels of trade at less cost per bushel than a small crop. This may be true, but whatever the cost, the distributing channels take more cents per bushel for a large crop than for a small crop.

G. F. Warren and F. A. Pearson

FARM REAL ESTATE

Index numbers of the values of farm real estate, rents, and prices of industrial stocks and railway stocks, are given in table 1.

According to estimates of the United States Department of Agriculture, farm values in the United States in 1920 were 69 per cent above pre-war. At that time, railroad stocks were selling at 31 per cent below pre-war prices. Prices of city real estate are not available, but city rents were 39 per cent above pre-war. Prices of industrial stocks were 45 per cent above pre-war. Financial inflation had raised prices more than it had raised freight rates and other distributing charges. The income from distributing charges goes to cities. Since this portion of retail prices had increased less rapidly than retail prices as a whole, a large share of retail prices in 1920 was left for farmers. This gave the appearance of a food shortage, and increased farmers' profits. It caused wages of farm labor to increase more rapidly than city wages, and prices of farm property to increase more rapidly than prices of other classes of property.

Since 1920, prices have declined, but freight, express rates and other distributing charges have increased, so that an unusual share of retail prices has remained in cities. The transfer of wealth from country to city brought about by deflation, has reversed the conditions brought about by inflation. City wages are now higher than farm wages, and various classes of city property are higher than farm property. With inflation, many persons in the distributing system were working for the farmer at very small pay. With deflation, the farmer is working for the city at very small pay.

TABLE 1.—INDEX NUMBERS OF VALUES OF FARM REAL ESTATE, CITY RENTS AND STOCKS, 1912-14 = 100

Year	Value of farm land[1]			70 industrial stocks[2]	20 railroad stocks[3]	City rents[4]
	New York	Iowa	United States			
1912	98	96	97	107	109	99
1913	100	99	100	97	98	101
1914	102	104	103	97	93	101
1915	100	112	102	120	88	103
1916	103	128	108	153	96	105
1917	109	134	117	141	83	101
1918	115	145	129	131	76	109
1919	118	160	140	161	76	116
1920	133	213	169	145	69	139
1921	123	197	157	119	66	162
1922	116	162	139	147	77	163
1923	115	156	135	156	75	166
1924	112	143	130	167	79	170
1925	111	136	127	223	92	169
1926	109	130	124	249	104	167
1927	108	121	119	300[6]	128[5]	164

[1] Index numbers of the value of farm real estate. Crops and Markets Vol. 4, No. 8; p. 296. Aug., 1927.

[2] Based on 70 industrial stocks, reported by the New York Herald Tribune and published in Farm Economics.

[3] Dow-Jones. Twenty railroad stocks reported by the Wall Street Journal and taken from the Review of Economic Statistics Vol. 1, p. 169; Vol. 4, p. 124; Vol. 7, p. 148; and from the Weekly Letters of the Harvard Economic Service.

[4] Snyder, Carl. Business cycles and business measurements, p. 291. 1927. and U. S. Dept. Labor, Monthly Labor Review Vol. 25 No. 2, p. 215, Aug., 1927.

[5] August only.

[6] September only.

In 1926, values of farm land in the United States were 24 per cent above pre-war. Industrial stocks were 149 per cent above pre-war. Compared with pre-war prices, industrial property is worth twice as much as farm property.

Railroad stocks are only a little above pre-war. Railroads were seriously injured during the war, when prices rose without a corresponding advance in freight rates. They are now making enough money so that their stocks are selling at better prices than farm land. Furthermore, their stocks will sell, whereas it is very difficult and sometimes impossible to sell farm land.

There was no boom in New York farm land during the war period. It is now estimated to be worth only 8 per cent above pre-war. The average price of farm land in Iowa almost doubled, but has now declined nearly to the pre-war basis. Much has been said about the land boom in Iowa. At the peak, prices were 113 per cent above pre-war, but prices of industrial stocks are 200 per cent above pre-war.

The reason why prices of farm land in states far from market rose more than in states near market, is that with inflation regions far from market receive a greater benefit from failure of distributing charges to rise, than do regions near market. With deflation, and high handling charges relative to retail prices, regions near market suffer least. Prices of land in places near market, therefore, fluctuated less violently than prices in a region far from market.

G. F. Warren and F. A. Pearson

EFFECT OF PRICE OF COTTON ON PRICE AND USE OF FERTILIZER

The price of cotton in December, 1925, was 17.4 cents. The following June, it was reported that the farmers had planted about 48,700,000 acres. They applied 2,360,000 tons of fertilizer, worth $77,000,000.

In December, 1926, cotton dropped 10 cents a pound, and the following June the estimated acreage was 42,700,000. Farmers purchased only 1,810,000 tons of fertilizer, worth only $48,000,000.

TABLE 1.—COMMERCIAL FERTILIZER USED ON COTTON*

Year	Price of cotton previous December, cents per pound	Millions of acres of cotton, June estimate	Millions of tons of fertilizer used on cotton	Average price per ton	Millions of dollard spent for fertilizer on cotton
1926	17.4	48.7	2.36	$32.51	77
1927	10.0	42.7	1.91	25.34	48

* U. S. Dept. Agr. Crops and Markets Vol. 4, No. 7, p. 249. July, 1927.

The drop in price of cotton, together with flood conditions, caused a drop of 12 per cent in the acreage of cotton, 19 per cent in tonnage of fertilizer, and 37 per cent in the amount of money spent for it.

If the price of fertilizer had not declined, even less of it would have been used. In these two years the amount spent for fertilizer was almost directly in proportion to the price of cotton. This indicates that the low price of cotton has more effect on intensity of culture than on acreage. It is probable that this principle holds generally for expenditures that can be avoided.

The present price of cotton is likely to result in a much greater use of fertilizers next year.

G. F. Warren and F. A. Pearson

FARM IMPROVEMENTS

The eight years of agricultural depression is slowly but surely affecting the physical equipment of American farms. The United States Department of Agriculture reports that in 1923 the average farmer spent $140 on farm improvements; and spent only $128 in 1926, a reduction of 9 per cent. This does not represent the total depreciation, as the normal amount spent for farm improvements is not known.

TABLE 1.—CHANGES IN AMOUNT SPENT PER FARM FOR FARM IMPROVEMENTS BY OWNER-OPERATORS*

Year	Amount spent per farm
1923	$140
1924	133
1925	131
1926	128

* Income from agricultural production. U. S. Dept. Agr. Crops and Markets Vol. 4, No. 7, p. 254. July, 1927.

Farmers have not built many new barns or houses in the past 8 years, and the old ones have been neglected. Fertilizer is used sparingly; old machinery is kept in use; fences are falling down; weed control is neglected; and innumerable attentions that are necessary to keep a farm in good condition are often neglected.

When prices of farm products again become remunerative, farmers will make the necessary repairs, but at a greater cost than would have been the case had it been possible for them to make repairs as they were needed.

G. F. Warren and F. A. Pearson

CAPITAL AND INCOME ON COST ACCOUNT FARMS, 1926

During the past year, 36 New York farmers cooperated with the Department of Agricultural Economics and Farm Management of the New York State College of Agriculture in the keeping of farm cost accounts. Most of these accounts were started between March first and April first. The accounts on 32 farms were completed. On 4 farms the work was discontinued before the year ended.

Capital

The average capital on these 32 farms was $26,143. Of this, 73 per cent was invested in real estate; 11 per cent, in livestock; 8 per cent, in implements and tools; and 8 per cent, in feeds, seeds and supplies. The average capital per farm varied from $6,613 for a Tioga County hill farm, to $44,898 for an Orange County dairy and fruit farm. On only one farm was the capital under $10,000. On 9 farms, the capital was from $10,000 to $20,000; on 10 farms, from $20,000 to $30,000; on 10 farms, from $30,000 to $40,000; and on 2 farms, over $40,000.

TABLE 1.—AVERAGE CAPITAL ON 32 COST ACCOUNT FARMS, 1926.

	Beginning of year	End of year	Average
Real estate	$19,074	$19,231	$19,153
Livestock	2,906	2,845	2,876
Implements and tools	1,992	2,121	2,056
Feeds, seeds and supplies	2,240	1,877	2,058
Total	$26,212	$26,074	$26,143

Labor Income

Operator's labor incomes on these farms ranged from +$5,156 to −$2,871. On 12 of the 32 farms, receipts were not sufficient to pay all farm expenses and allow 5 per cent interest on the capital invested. In other words, 12 operators had no pay for their year's work and received less than 5 per cent interest on their investment. The average of the five highest labor incomes was $4,554. The five lowest averaged −$2,187. The average labor income for all farms was $826.

Value of Operator's Time[1]

Each operator estimated the value of his time for the year. Their estimates ranged from $500, for the operator of a Dutchess County dairy farm, to $1600, for the operator of a Cayuga County fruit farm. Of the 40 farm operators, 17 were college graduates and valued their time at $1148 per year. Seven operators who had taken a winter or short course in an agricultural college, value their time at $1053 for the year. Sixteen operators with no college training valued their time at $973. The average for the 40 operators was $1060.

The average value of farm privileges which these 40 operators had was $638. House rent represented 45 per cent of the value of all privileges, or an average of $284 per operator.

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[1] Eight farms had 2 operators so that there were 40 operators on 32 farms.

Returns on Investment

The difference between farm receipts and farm expenses is called farm income, or income from capital and operator's labor. The farm income on these 32 farms was $2133 (Table 2). After deducting from this farm income the average value of the operator's time,[2] $1096, there is left as income from capital, $1037. This represents a return of 3.96 per cent on the average investment.

TABLE 2.—AVERAGE RECEIPTS, EXPENSES AND LABOR INCOME ON 32 COST ACCOUNT FARMS, 1926

Average capital		$26,143
Receipts		
Crops sold	$3,645	
Livestock sold	861	
Livestock products	2,805	
Miscellaneous	519	
Total receipts		$ 7,830
Expenses		
Decrease of capital	$ 139	
Livestock purchased	355	
Farm expenses	5,203	
Total expenses		$ 5,697
Income from capital and operator's labor		$ 2,133
Interest on average capital at 5 per cent		$ 1,307
Labor income*		$ 826

* "Labor income is what a farmer receives for his year's work above interest on his investment and all farm expenses, and in addition to having a house to live in and farm products to use in the house."

Of course the return on the capital investment for any farm is somewhat dependent upon the value which the operator places on his time. Considering the managerial responsibilities these operators have, $1096 for a year's work is low. Many dependable hired men are paid as much as that. If these operators placed a value on their time in proportion to their abilities, returns on capital would have been less.

On 11 of the 32 farms, income was not high enough to pay all farm expenses and allow the operator what he estimated his time to be worth. These 11 operators received no return on their investment. On 9 farms, the return on investment was less than 5 per cent; on 5 farms, from 6 to 10 per cent; and on 7 farms over 10 per cent.

Farms keeping cost accounts in 1926 were twice as large and had double the investment of the average New York State farm. Most of the operators on these farms have a good education. They also have the advantage of a good size of business, good rates of production and make efficient use of labor. The average labor income of $826 for these operators is higher than that for most groups of farms studied in recent years, in either New York State or in the United States. However, this is less than the wages paid to a dependable hired man. A return of 4 per cent on the average investment is much lower than the returns on most city investments with equal risk.

J. F. Harriott

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[2] Labor income is figured for one operator only. The value of the labor of a second operator is included under farm expenses.

WAGES PAID FOR FARM LABOR IN TOMPKINS COUNTY, NEW YORK, 1810-1926

A study of the cost of farm labor in Tompkins County, New York, shows that farm labor costs more than tripled in the period from 1810 to 1926. In this study, labor was classified as "harvest labor, "all" day labor, and labor hired by the month. Wages are now about 4 times as high as at the beginning of the ninteenth century.

TABLE 1.—FARM WAGES PAID FOR LABOR, TOMPKINS COUNTY, NEW YORK
Cents per day

Period	Harvest labor	"All" day	Month
1810-19	77.9	71.5	41.8
1830-39	82.3	78.4	34.1
1840-49	75.2	72.9	40.2
1850-59	86.5	73.7	49.3
1860-69	130.2	112.2	74.1
1870-79	137.8	121.4	77.7
1880-89	133.5	110.7	65.0
1890-99	126.7	108.5	68.6
1900-09	143.3	133.7	78.4
1910-14	170.8	162.2	92.3
1915-19	215.6	198.2	110.8
1921-26	287.5		193.3

Wages are also expressed in pounds of wheat per day in order to show the cost of farm labor to the farmer employing it and paying for it with the crops he grows.

There is a great disparity between the wages the laborer hired by the month received for a day's work and the wages the "harvest hand" received for a day's work. During the period covered in this study, wages paid harvest hands by the day were approximately double those received by men hired by the month. Much of this disparity is accounted for by the fact that men hired by the month usually receive their board and room, or if married, they receive house rent, garden, milk and other privileges in addition to their money wages.

The number of pounds of wheat required to pay one day's labor by the different classes is given in Table 2. The period 1830-1839 was a period of high prices when wages rose more rapidly than did the price of wheat. The following decade shows a drop in wages in terms of wheat. Money wages had not changed but the price of wheat had risen. From 1850-1859 to 1910-1914 wages rose steadily. In the period 1915-1919, wages continued to rise but much more slowly than the price of wheat. This caused a decline in wages when expressed in pounds of wheat. The post-war period, 1921-1926, shows the reversal of these conditions. Wages in terms of money remained high but wheat declined in price. This resulted in the highest wages in terms of wheat that ever existed in Tompkins County.

The present day farmer has to grow over three times as much wheat to pay his labor bill as he did a century ago.

TABLE 2.—FARM WAGES IN POUNDS OF WHEAT, TOMPKINS COUNTY, NEW YORK (1810-1926)

Period	Average number of pounds of wheat per day		
	Harvest labor	"All" day labor	Labor by the Month
1810-19	40	36	20
1830-39	45	45	—
1840-49	44	42	24
1850-59	40	35	23
1860-69	48	39	24
1870-79	61	54	35
1880-89	80	67	40
1890-99	93	80	50
1900-09	98	91	53
1910-14	101	96	54
1915-19	67	62	34
1921-26	129	—	87

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management
NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 49 DECEMBER, 1927

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm Prices		United States Prices of Food		Cost of living United States[4]	Weekly earnings N. Y. factory workers[5]	Prices of 70 indust'l stocks[6]	Interest rates 4-6 mos. comm'l. paper[7]
		New York[2]	United States[2]	Farm[3]	Retail[3]				
1913	102	97	99	100	103	100		96	115
1914	100	103	101	105	106	103	101	96	99
1915	103	100	101	106	107	105	104	119	71
1916	129	116	119	117	117	118	116	152	71
1917	180	170	180	181	156	142	132	140	98
1918	198	186	206	200	180	174	164	130	121
1919	210	206	215	213	194	199	190	160	112
1920	230	217	214	207	207	200	227	144	153
1921	150	144	119	130	163	174	207	118	135
1922	152	134	124	121	150	170	202	146	92
1923	157	142	137	124	154	173	220	155	102
1924	152	128	140	126	153	173	223	166	81
1925	162	147	154	152	169	178	228	221	83
1926	154	156	142	154	174	176	234	247	88
Mar., 1926	154	158	145	154	177		234	239	97
Apr.	154	171	146	158	180		233	232	96
May	155	176	145	161	179		231	233	93
June	155	176	146	161	177	175	234	242	87
July	154	163	143	156	172		232	249	81
Aug.	152	150	140	147	169		233	256	79
Sept.	154	148	140	148	171		236	254	78
Oct.	153	140	134	148	171		237	246	81
Nov.	151	150	135	151	170		235	250	85
Dec.	150	145	133	150	169	176	238	256	87
Jan., 1927	150	142	130	145	171		237	252	96
Feb.	149	142	132	145	171		237	258	95
Mar.	148	142	131	142	172		240	261	90
Apr.	147	147	130	143	172		235	264	93
May	147	167	132	146	172		235	273	94
June	146	172	134	149	172	173	235	275	93
July	147	161	137	148	167		233	280	85
August	149	148	139	145	165		236	290	74
September	150	147	146	144	166		238	300	69
October	150	150	146	146	168		236	296	69
November			145					304	

(For footnotes see next page.)

WORLD CROP PRODUCTION

The world wheat crop is 3 per cent greater than last year.

The world rye crop is about 14 per cent greater than last year, but, is less than the 1925 crop.

The world barley production is about 6 per cent larger than last year.

The world production of oats is about one per cent less than last year.

The world corn crop this year is about 2.5 per cent less than last year.

The world potato crop is 14 per cent greater than last year.

The world sugar crop is less than last year.

The world cotton crop is much less than a year ago.

Wheat prices in general, started off at about the same level as a year ago, but declined in September, October and November. Soft winter and hard winter wheat prices are about the same as a year ago. Durum and spring wheat are lower.

Prices of potatoes and rye are lower than a year ago and corn and cotton are higher.

United States Crop Production

The United States production of wheat, corn, barley, rye, buckwheat, flaxseed, grain, sorghums, sugar beets, white and sweet potatoes, beans, peanuts, grapes, onions, cabbage, celery, tomatoes, cantaloupes, strawberries and hay was greater than last year.

The production of oats, rice, tobacco, watermelons, hops, apples, peaches and pears was less than the previous year.

The quality of corn, oats, barley, rye, buckwheat, white potatoes and hay is superior to that a year ago. The quality of wheat, rice and sweet potatoes is lower than a year ago.

With the exception of barley, rye, sweet potatoes and hay, the quality of crops this year is below the ten-year average.

Farm Prices

Index numbers of prices paid to farmers in the United States for food products in October was 146. This is two points below October last year. The index number of retail prices of American grown food is 168. Last year it was three points higher. Prices for all farm products including cotton are 10 points higher than last year.

All the grains are very cheap. Timothy hay is so cheap that in many regions it is difficult to sell it. Potatoes are much below last year's prices. Apples are so scarce that they are very high in price.

Eggs were very cheap last spring but the November index of egg prices was 63 per cent above pre-war. Mutton and chickens are selling at good prices.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February 1927.

[4] Reported by the United States Bureau of Labor Statistics, 1913 = 100. Monthly Labor Review Vol. XXIV, No. 2, p. 168, February 1927.

[5] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[6] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[7] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

The most striking change in the past year has been the steady increase in prices paid for beef cattle. The entire cattle industry, both beef and dairy, is in a strong position. The years of low prices resulted in such a decrease in the number of heifers raised that there is a distinct shortage of cattle of all kinds. It will be a number of years before this shortage is made up. For six years, prices of cattle and dairy products were so low as to cause heavy losses for most persons who raised any animals. The inevitable result is now apparent.

A year ago farmers were receiving 64 per cent above pre-war prices for hogs. The relatively good prices of hogs resulted in increased production of hogs and the November farm price of hogs was only 29 per cent above pre-war. If the hog-cycle is of normal length, the next time when there is a shortage of hogs, probably about 1932 or 1933, there will still be a shortage of beef, and of dairy cattle. Such a coincidence occurred but twice in the last 40 years. On the last such an occasion, there was much agitation in government and city circles, almost equal to the disturbance that an eclipse brings in Central Africa. Surplus and shortages of meat come from definite causes just as eclipses do, and while the exact moment of arrival cannot be stated in minutes, the time can be predicted with considerable accuracy.

The distress in the last period of surplus cattle production wiped out the lifetime savings of hundreds of cattle-men and dairy-men. The succeeding shortage cannot help these men, but will bring profits to their successors, and will bring anxiety to consumers.

The University of Vermont has been making a study of the total tangible loss to farm property in the recent floods. The report is not completed but has progressed far enough to indicate that the losses will approximate $2,000,000, and that between 1,500 and 2,000 cattle were lost. New York and New England keep about 3 million head of cattle so that the loss represents more than 1 for every 2,000 cattle in the seven states. This percentage is so small that it is not likely to have much effect on New York dairymen. For a time milk trains were unable to run and milk from many farms that were not damaged did not reach the city markets.

Feed Prices

Ordinarily prices decline somewhat at this season of the year. The wholesale price of a dairy ration has not changed much this fall. The index number of a dairy ration in November was 146, nearly as high as last summer.

The poultry ration has gradually declined since last August and is now worth $43.87 per ton.

G. F. Warren and F. A. Pearson.

PROFITS AND LOSSES FROM HOLDING CROPS[1]

Corn

The statement is very commonly made that the average advance in price is only sufficient to pay for interest, shrinkage and storage charges, and that the farmer should sell his crops as soon as they are ready for market. The *average* profit from holding is small. If a farmer follows the

(Continued on page 793)

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[1] Warren, G. F. Farm Management, p. 421, 1918; Warren G. F. and Pearson, F. A. Profit and Losses from Holding Wheat. Farm Economics, Vol. 1, No. 5, pp. 46-49. August, 1923. Warren, G. F. and Pearson, F. A. The Agricultural Situation, pp. 103-109. 1924.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1926												
November	66.0	39.8	123.6	56.0	83.6	195.5	2.99	11.0	13.22	...	141.3	88.5
December	64.5	41.1	122.8	56.4	83.5	196.4	3.07	10.0	13.47	...	137.0	94.0
1927												
January	64.3	42.6	122.2	58.0	83.6	193.0	2.99	10.6	13.38	...	139.1	97.8
February	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	...	134.1	109.0
March	65.2	43.4	120.9	62.2	86.0	195.1	2.76	12.5	13.48	...	127.0	112.3
April	65.6	43.2	117.2	64.1	85.1	196.1	2.86	12.3	13.26	...	126.6	112.8
May	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	...	146.0	118.9
June	88.9	48.0	130.1	76.3	98.8	204.7	3.23	14.8	13.10	...	191.0	136.0
July	92.4	46.3	127.4	71.4	101.0	198.4	3.35	15.5	11.71	...	183.1	136.4
August	97.7	44.4	123.5	69.0	98.1	203.7	3.45	17.1	9.97	...	146.3	146.7
September	95.3	43.9	119.2	69.5	92.3	197.1	3.26	22.5	10.51	...	107.4	121.9
October	87.6	44.6	113.7	66.8	82.9	191.2	3.08	21.0	10.63	...	97.9	98.1
November	73.7	45.1	111.4	66.8	79.4	184.2	2.95	20.0	10.54	...	95.4	86.5

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	169
1919	242	174	244	171	214	238	195	239	173	183	200	173
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1926												
November	104	103	140	93	117	121	133	91	114	...	236	116
December	110	106	143	93	117	127	134	82	109	...	226	130
1927												
January	110	111	140	95	118	119	133	86	114	...	222	125
February	112	110	138	96	119	115	132	94	114	...	204	131
March	108	108	136	99	122	112	127	101	112	...	190	128
April	106	107	132	100	118	113	131	99	110	...	186	121
May	113	110	137	105	121	117	130	110	108	...	210	122
June	131	115	143	118	131	117	140	117	106	...	275	142
July	134	111	146	116	128	119	146	122	98	...	246	149
August	138	111	145	120	126	119	150	137	86	...	165	152
September	130	112	136	118	124	115	142	184	90	...	134	131
October	125	114	130	111	114	114	136	174	91	...	141	115
November	116	117	127	111	111	114	132	165	91	...	159	113

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1926												
November	82	75	20.0	44.9	43.5	67.26	6.32	9.54	6.75	11.11	31.6	11.45
December	88	73	19.8	47.6	45.5	66.74	6.42	9.44	6.95	10.92	30.1	10.97
1927												
January	97	73	20.1	36.9	44.0	66.77	6.45	9.75	6.87	10.65	30.9	10.97
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19
March	100	79	21.3	20.8	43.5	70.18	6.82	10.10	7.41	11.55	31.3	10.89
April	104	80	21.8	20.3	43.4	71.98	7.13	9.90	7.40	11.97	30.4	10.41
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41
June	140	80	20.2	17.8	40.4	74.19	7.08	9.46	7.27	11.95	30.2	8.40
July	144	80	19.9	20.7	40.3	74.15	7.13	9.82	7.16	11.44	30.7	8.58
August	136	80	19.7	23.4	40.3	74.24	7.21	10.37	7.13	11.15	31.2	9.24
September	131	78	19.4	29.4	41.7	76.10	7.42	10.78	7.06	11.14	31.2	9.78
October	135	77	19.7	35.6	43.4	78.62	7.55	11.04	7.05	11.22	30.9	10.16
November	142	75	19.4	41.6	44.5	81.09	8.00	10.67	7.42	11.42	31.1	8.99

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	101
1915	77	93	103	102	102	118	113	111	115	116	126	94
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1926												
November	113	55	175	176	163	135	121	137	158	203	184	164
December	114	54	183	159	161	133	123	136	159	192	174	163
1927												
January	100	53	188	125	155	141	128	144	149	184	167	156
February	96	54	194	110	161	143	129	149	157	182	168	157
March	92	55	190	97	168	144	129	146	155	186	167	147
April	91	55	190	119	171	146	130	146	146	185	169	137
May	93	56	184	119	170	147	130	142	155	185	169	130
June	114	55	171	107	172	149	130	140	153	190	173	117
July	141	56	167	124	176	151	134	146	157	188	175	118
August	172	57	164	136	171	150	135	151	161	197	175	124
September	187	56	163	152	169	154	139	153	162	198	180	129
October	196	56	167	160	168	158	142	157	164	204	181	138
November	196	55	170	163	167	162	154	154	174	209	181	129

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1926										
November	86	48	132	70	85	3.60	13.90	155	65	117
December	87	49	131	73	85	3.60	14.10	154	70	115
1927										
January	86	50	131	71	85	3.24	14.00	150	90	115
February	89	51	132	73	86	3.36	14.40	135	87	123
March	87	52	132	76	88	3.24	14.00	120	95	120
April	90	51	126	78	87	3.18	13.50	120	90	125
May	93	54	130	80	91	3.30	13.50	146	100	124
June	106	59	138	88	106	3.54	14.00	200	115	130
July	108	56	138	85	104	3.60	12.60	185	115	130
August	112	55	131	85	100	3.63	11.40	140	120	135
September	113	51	129	82	96	3.66	10.90	125	130	127
October	105	53	126	81	85	3.60	11.00	115	130	127
November	98	53	126	80	82	3.60	10.50	120	145	126

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1926										
November	112	104	136	93	118	149	93	277	100	67
December	116	104	134	97	118	148	92	241	95	65
1927										
January	119	111	132	95	120	138	92	234	111	66
February	125	109	132	97	119	144	95	196	100	70
March	123	111	132	99	124	140	90	176	106	68
April	127	104	126	101	119	139	88	174	87	69
May	127	108	130	101	121	140	86	203	88	70
June	141	116	135	110	138	151	86	286	117	72
July	142	110	137	109	124	149	79	268	131	74
August	145	108	136	110	123	148	77	159	174	76
September	140	104	134	108	126	148	72	140	210	72
October	133	113	130	108	115	148	72	167	213	72
November	127	115	130	107	114	149	70	214	223	72

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1926												
November	24.6	61	75.5	50	2.77	92.00	12.30	5.80	5.40	11.90	36	12.10
December	24.0	61	59.7	52	2.85	95.00	12.00	5.60	5.60	11.80	37	12.10
1927												
January	25.7	48	46.0	51	2.72	92.00	12.40	5.60	5.80	11.50	35	11.60
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10
March	27.0	27	31.3	51	2.65	100.00	12.20	6.00	6.20	12.20	33	11.60
April	27.7	26	30.9	51	2.49	106.00	11.80	6.00	6.30	12.50	33	11.50
May	27.3	26	29.6	50	2.27	109.00	10.90	6.60	6.20	12.90	33	10.70
June	26.6	25	30.1	48	2.18	113.00	10.80	6.60	6.80	12.60	31	10.00
July	24.6	28	34.9	48	2.29	113.00	11.60	6.20	6.00	12.20	33	9.60
August	24.5	32	43.3	47	2.47	114.00	12.10	6.30	5.60	11.70	34	10.00
September	24.8	40	52.3	49	2.80	113.00	12.80	6.60	5.70	11.60	35	10.60
October	23.9	48	64.5	50	2.93	117.00	13.20	6.80	5.60	11.20	35	10.50
November	24.2	59	65.8	50		121.00	13.00	6.40	5.50	11.40	36	10.20

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1926												
November	170	174	138	156	147	163	140	106	137	198	171	163
December	174	149	121	153	149	168	137	103	129	192	176	165
1927												
January	189	126	116	150	143	171	147	106	139	179	159	156
February	186	125	106	155	149	179	152	111	133	181	164	161
March	190	96	121	165	158	179	146	115	145	189	157	149
April	187	124	137	170	171	188	152	112	138	183	157	147
May	183	137	130	172	191	196	148	117	144	197	165	141
June	175	125	123	171	204	199	137	120	160	190	155	135
July	162	127	128	178	182	200	142	114	144	185	157	128
August	155	128	141	168	164	201	143	112	130	185	170	129
September	159	148	143	163	156	197	147	117	140	188	167	134
October	154	160	143	161	156	209	149	119	138	187	167	133
November	167	169	120	156		215	148	117	140	189	171	137

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1926												
November	37.03	34.55	33.60	39.99	30.60	32.60	32.80	49.90	34.50	73.80	35.55	40.62
December	38.90	34.65	36.00	42.30	34.25	35.75	35.38	50.40	34.81	73.80	37.13	41.96
1927												
January	37.93	36.90	35.25	41.85	34.13	35.63	35.50	50.60	38.25	75.80	37.93	41.79
February	37.93	38.65	35.00	40.81	35.13	36.63	36.00	51.68	41.50	79.80	38.89	42.55
March	37.09	38.65	33.20	40.52	34.65	36.40	35.70	50.60	42.75	76.80	38.65	41.97
April	37.44	35.54	32.25	41.00	35.50	36.23	35.88	51.90	41.63	76.80	37.86	41.68
May	41.86	36.50	37.40	44.72	35.80	36.10	37.00	52.48	43.78	76.80	39.74	43.71
June	45.63	42.25	40.50	43.40	33.94	36.63	.....	51.93	47.04	74.80	41.86	45.68
July	46.40	39.30	40.25	41.60	33.00	38.50	.....	51.80	46.31	80.30	40.65	46.44
August	48.72	38.58	43.50	41.22	34.00	42.10	.....	52.10	46.00	82.80	41.08	47.35
September	45.15	40.60	44.50	41.95	33.63	37.63	.....	52.30	47.10	81.30	41.31	45.11
October	42.29	41.10	41.38	42.48	33.38	34.50	36.88	52.30	47.63	84.80	40.95	43.91
Nlvember	42.47	41.30	39.70	43.66	35.75	36.25	37.20	51.50	49.80	79.80	41.76	43.87

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	111	115
1917	238	170	201	163	155	160	160	149	153	146	171	199
1918	233	199	222	195	146	148	...	166	184	199	189	203
1919	238	233	240	179	184	198	192	213	240	195	214	213
1920	230	239	225	212	202	207	206	191	218	217	220	223
1921	114	139	112	114	104	99	110	127	140	172	122	122
1922	107	137	110	106	117	116	119	156	165	172	127	116
1923	138	164	136	121	136	134	134	149	168	170	146	134
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	143	151
1926	128	134	119	120	126	122	127	149	123	135	128	131
1926												
November	123	122	117	128	128	129	126	146	109	138	124	126
December	135	117	128	136	138	141	134	147	110	138	128	133
1927												
January	138	122	127	135	131	136	132	146	116	146	129	134
February	138	126	126	128	134	140	133	149	129	153	131	135
March	139	132	125	128	133	140	132	152	134	147	133	134
April	135	127	122	127	138	141	135	155	128	147	132	132
May	146	133	137	137	142	141	141	159	134	147	139	137
June	160	153	147	131	146	147	...	162	143	143	148	144
July	157	149	146	124	141	149	...	160	140	153	144	144
August	154	131	146	124	137	154	...	151	134	158	137	145
September	138	133	142	130	136	139	...	148	138	154	136	137
October	137	143	140	137	141	134	141	152	149	159	142	136
November	141	145	138	140	149	144	143	151	158	149	146	138

policy of holding corn when it is cheap and selling promptly when it is high, the average profit will be substantial. In Table 1 is shown the purchasing power of corn as related to profits from holding. Purchasing power is used because of the varying value of money. The purchasing power is not its price in dollars, but its price as related to the general level of all-commodity prices.

TABLE 1.—RELATION OF THE PURCHASING POWER OF CORN TO PROFIT AND LOSSES FROM HOLDING 1870-1913

No. 2 Corn, contract grade, at Chicago

Year	Purchasing power of the Dec. price*	Price in Dec.	Price the following					Amount by which the price rose above the previous December price				
			Mar.	May	July	Sept.	Dec.	Mar.	May	July	Sept.	Dec.
		¢	¢	¢	¢	¢	¢	¢	¢	¢	¢	¢
1872	57	30.8	32.2	39.2	36.0	39.8	50.4	+ 1.4	+ 8.4	+ 5.2	+ 9.0	+19.6
1896	65	23.0	23.7	24.5	26.3	29.8	26.4	+ 0.7	+ 1.5	+ 3.3	+ 6.8	+ 3.4
1895	72	25.7	28.6	28.7	26.3	20.9	23.0	+ 2.9	+ 3.0	+ 0.6	− 4.8	− 2.7
1897	73	26.4	29.0	35.1	33.3	30.3	34.9	+ 2.6	+ 8.7	+ 6.9	+ 3.9	+ 8.5
1899	73	30.8	36.1	37.8	41.7	40.7	37.3	+ 5.3	+ 7.0	+10.9	+ 9.9	+ 6.5
1878	76	31.0	32.4	35.6	36.4	35.2	40.8	+ 1.4	+ 4.6	+ 5.4	+ 4.2	+ 9.8
1871	77	41.0	37.7	46.0	41.0	36.2	30.8	− 3.3	+ 5.0	0	− 4.8	−10.2
1889	77	32.0	28.3	33.9	38.6	47.2	50.6	− 3.7	+ 1.9	+ 6.6	+15.2	+18.6
1910	82	47.8	46.8	54.0	63.9	67.5	69.5	− 1.0	+ 6.2	+16.1	+19.7	+21.7
1912	83	49.2	51.2	57.1	62.4	75.2	70.8	+ 2.0	+ 7.9	+13.2	+26.0	+21.6
1888	84	34.5	34.5	34.1	35.9	32.8	32.0	0	− 0.4	+ 1.4	− 1.7	− 2.5
1906	84	44.1	44.2	52.7	53.9	62.3	59.4	+ 0.1	+ 8.6	+ 9.8	+18.2	+15.3
1884	85	35.1	39.3	47.8	46.6	43.1	39.2	+ 4.2	+12.7	+11.5	+ 8.0	+ 4.1
1900	86	37.3	40.4	49.2	50.8	56.7	64.5	+ 3.1	+11.9	+13.5	+19.4	+27.2
1880	88	39.0	38.5	42.0	47.5	66.5	60.8	− 0.5	+ 3.0	+ 8.5	+27.5	+21.8
1903	89	42.2	51.9	48.7	49.3	53.0	46.3	+ 9.7	+ 6.5	+ 7.1	+10.8	+ 4.1
1898	90	34.9	34.6	33.4	33.3	32.8	30.8	− 0.3	− 1.5	− 1.6	− 2.1	− 4.1
1886	91	37.0	34.7	38.2	36.6	41.6	48.8	− 2.3	+ 1.2	− 0.4	+ 4.6	+11.8
1893	92	35.1	35.6	37.5	42.8	54.3	46.5	+ 0.5	+ 2.4	+ 7.7	+19.2	+11.4
1870	93	50.0	53.9	53.8	51.0	46.6	41.0	+ 3.9	+ 3.8	+ 1.0	− 3.4	− 9.0
1905	95	47.2	41.9	49.0	51.8	48.2	44.1	− 5.3	+ 1.8	+ 4.6	+ 1.0	− 3.1
1873	96	50.4	59.8	61.7	61.5	76.5	77.7	+ 9.4	+11.3	+11.1	+26.1	+27.3
1904	97	46.3	47.2	52.9	57.1	53.1	47.2	+ 0.9	+ 6.6	+10.8	+ 6.8	+ 0.9
1875	99	48.6	44.0	46.6	45.8	45.0	45.2	− 4.6	− 2.0	− 2.8	− 3.6	− 3.4
1876	99	45.2	39.5	51.1	48.1	43.5	42.1	− 5.7	+ 5.9	+ 2.9	− 1.7	− 3.1
1877	99	42.1	42.2	38.6	38.2	36.9	31.0	+ 0.1	− 3.5	− 3.9	− 5.2	−11.1
1879	99	40.8	35.3	36.2	35.6	40.5	39.0	− 5.5	− 4.6	− 5.2	− 0.3	− 1.8
1885	99	39.2	36.1	35.2	38.8	38.8	37.0	− 3.1	− 4.0	− 0.4	− 0.4	− 2.2
1892	105	41.5	41.1	42.1	39.8	40.2	35.1	− 0.4	+ 0.6	− 1.7	− 1.3	− 6.4
1902	106	50.3	43.6	45.0	50.9	50.0	42.2	− 6.7	− 5.3	+ 0.6	− 0.3	− 8.1
1909	111	64.2	62.1	60.7	62.4	55.2	47.8	− 2.1	− 3.5	− 1.8	− 9.0	−16.4
1907	113	59.4	63.4	74.6	75.1	79.8	59.0	+ 4.0	+15.2	+15.7	+20.4	− 0.4
1908	113	59.0	66.0	74.6	71.7	67.7	64.2	+ 7.0	+15.6	+12.7	+ 8.7	+ 5.2
1882	114	51.3	55.7	56.4	51.1	49.6	59.1	+ 4.4	+ 5.1	− 0.2	− 1.7	+ 7.8
1891	118	47.3	39.4	54.0	49.8	46.5	41.5	− 7.9	+ 6.7	+ 2.5	− 0.8	− 5.8
1887	119	48.8	47.7	57.4	47.3	43.7	34.5	− 1.1	+ 8.6	− 1.5	− 5.1	−14.3
1913	121	70.8	65.9	69.9	71.2	78.4	64.6	− 4.9	− 0.9	+ 0.4	+ 7.6	− 6.2
1890	123	50.6	61.5	61.7	58.8	58.6	47.3	+10.9	+11.1	+ 8.2	+ 8.0	− 3.3
1894	127	46.5	44.5	51.1	44.2	32.3	25.7	− 2.0	+ 4.6	− 2.3	−14.2	−20.8
1911	127	69.5	69.2	80.3	72.6	73.8	49.2	− 0.3	+10.8	+ 3.1	+ 4.3	−20.3
1881	136	60.8	61.6	72.5	77.1	64.5	51.3	+ 0.8	+11.7	+16.3	+ 3.7	− 9.5
1883	137	59.1	51.7	55.8	51.3	53.9	35.1	− 7.4	− 3.3	− 7.8	− 5.2	−24.0
1901	146	64.5	59.1	61.7	71.2	59.8	50.3	− 5.4	− 2.8	+ 6.7	− 4.7	−14.2
1874	151	77.7	65.6	70.8	70.0	59.4	48.6	−12.1	− 6.9	− 7.7	−18.3	−29.1

*A straight line was fitted to the purchasing power of the December price of corn and the actual purchasing power expressed as a per cent of the normal trend.

In the 11 years when the purchasing power of corn in December was low, the July price was 6 cents above the December price. In the 11 years when the purchsing power was high, the advance was 2 cents. If held until September, corn advanced in the years when it was cheap, while in years when it was high, prices declined 2 cents between December and the following September.

In all but 5 of the 22 years when the purchasing power in December was below the average, the price in the following September rose.

In all but 7 of the 22 years when the price in December was high, there was a decrease in price the following September.

TABLE 2.—AVERAGE ADVANCE IN THE CHICAGO PRICE OF CORN RELATED TO PURCHASING POWER OF CORN PRICES, EXPRESSED AS A PER CENT OF THE TREND, 1870-1913, FROM TABLE 1

Purchasing power of December prices	Number of years	Advance in price				
		March over December	May over December	July over December	September over December	Following December over December
		¢	¢	¢	¢	¢
Very low	11	0.8	4.9	6.3	7.6	8.6
Low	11	2.0	5.6	6.6	11.8	9.7
High	11	−1.5	1.9	2.4	1.3	−4.3
Very high	11	−2.3	4.1	1.6	−2.4	−12.7
Average	44	−0.2	4.1	4.3	4.6	0.3

Oats and Wheat

The same principle is shown for oats in table 3. In the 9 years when the purchasing power of the August price of oats was very low, the advance in price from August to May averaged 4 cents. Prices declined 2 cents in the 7 years when August prices were high. By holding a full year, there was an average gain of 6 cents from holding cheap oats, and a loss of 11 cents from holding high-priced oats.

TABLE 3.—AVERAGE ADVANCE IN PRICE OF OATS AT NEW YORK CITY AS RELATED TO PURCHASING POWER OF OAT PRICES, 1882-1913
No. 3 Mixed Oats

Purchasing power of August prices	Number of years	Advance in price				
		October over August	December over August	March over August	May over August	Following August over August
		¢	¢	¢	¢	¢
Under 90	9	−0.1	2.0	2.7	4.3	5.8
90-99	6	−1.7	1.3	4.9	4.2	2.4
100-109	9	−2.0	−0.9	0.7	0.9	−2.2
110 and over	7	−8.5	3.7	2.2	−2.3	−10.8
Average	31	−2.2	1.4	2.4	1.8	−0.9

While there is little profit in holding wheat year after year, prices show that in certain years large profits may be made. In the 9 years when the purchasing power of wheat was less than 90, there were only two years in which wheat did not advance in price. The average advance by December was 3.6 cents, and by the following May, 8.1 cents, and at the end of the crop year, 10.1 cents, table 4.

In the 6 years when the purchasing power was very high, prices declined 0.6 cents to December, 3.3 cents to May and 21.7 cents to the following September.

Apparently when wheat has a high purchasing power, there is very great risk in holding, and when it has a low purchasing power, there is a good chance for a profit from holding.

TABLE 4—AVERAGE ADVANCE IN THE PRICE OF WHEAT AT NEW YORK AS RELATED TO PURCHASING POWER, 1880-1913‡
No. 1 Northern Wheat

Purchasing power of September prices	Number of years	Advance in pric		
		December over September	May over September	Following September over September
		¢	¢	¢
Under 90	9	3.6	6.1	10.1
90-99	11	4.3	6.1	7.4
100-109	8	2.7	3.4	−3.1
Over 110	6	−0.6	−3.3*	−21.7
Average	34	2.9	4.6*	0.5

‡Warren, G. F. and Pearson, F. A. The Agricultural Situation, p. 105, 1924.
*May, 1897 omitted because of the Leiter corner in wheat.

Blind holding of grain gives a slight profit over a long series of years, but a policy of prompt sale when prices are high and holding when prices are low results in material gains.

Potatoes

Grain can be held over for a full year so that the surplus can be carried over to receive the benefit of prices the subsequent year. This is not true for potatoes. If the potato crop is large, there is usually great difficulty in getting rid of the potatoes at the end of the season before they spoil.

When the crop is large, prices are low but they are likely to be still lower by spring. When the price of potatoes is high in the fall, it is usually still higher in the spring.

In the 11 years when the purchasing power was low, prices advanced only 3 cents per bushel from October to April. In the 11 years when the purchasing power was high, prices rose 24 cents.

TABLE 5.—AVERAGE ADVANCE IN WHOLESALE PRICE OF STATE POTATOES PER BUSHEL AT NEW YORK CITY AS RELATED TO PURCHASING POWER OF POTATO PRICES, 1870-1915

Purchasing power of October prices	Number years	Advance in price December over October	 February over October	 April over October
		¢	¢	¢
Very low	12	4	6	8
Low	11	7	6	3
High	11	8	16	24
Very high	12	11	15	23
Average	46	7	11	15

For 46 years the average advance, from October to April in the wholesale price of potatoes in New York City was 15 cents per bushel. This would allow a moderate average profit from holding. But the advance in price of 3 to 8 cents in the 23 years when potatoes were cheap in the fall was not sufficient to pay for holding. On the other hand, the advance of 23 to 24 cents in years when potatoes were high in price in the fall made holding profitable.

Cabbage

When the crop of cabbage is large and prices are very low, prices advance but little during the remainder of the crop marketing period. When cabbage is high in price in the fall, it is likely to be much higher later.

In 7 years when the purchasing power of cabbage was very low in October, prices advanced only $5.65 per ton, from October to March. In 7 years when the purchasing power was very high, prices advanced $22.64.

TABLE 6. AVERAGE ADVANCE IN PRICES PAID TO FARMERS PER TON FOR WHITE DANISH CABBAGE AT LITTLE YORK, NEW YORK, AS RELATED TO THE PURCHASING POWER OF CABBAGE PRICES, 1894-1924*

Purchsing power of October price	Number of years**	Advance in price November over October	 January over October	 March over October
		$	$	$
Very low	8	−0.03	3.31	5.65
Low	7	−0.35	3.50	6.82
High	7	0.84	6.91	12.17
Very high	7	0.92	26.58‡	22.64‡
Average	29	0.33	9.84‡	11.61‡

*Prices paid to farmers for white Danish cabbage at Little York, as reported by:
Misner, E. G. Production and Prices of Cabbage, Farm Economics Vol. 1, No. 16, p. 150, July 1924.
Misner, E. G. The Marketing of Cabbage, Cornell University Agricultural Experiment Station Bulletin 443, p. 81, October 1925.

**As prices were not quoted throughout the entire season for the crops of 1895 and 1898, these years were excluded.

‡If the advance in prices is expressed as purchasing power, that is, in dollars with the 1910-14 value, the figures are little changed, except in the 7 years of very high prices. In these years the advance was, $17.62 to January and $14.33 to March, expressed in 1910-14 dollars. The averages for 29 years are $7.54 and $9.64.

For the 29 years, the average advance from October to March was $11.61 per ton. This was probably more than sufficient to pay for shrinkage and storage charges. In 15 years, when cabbage was cheap in the fall, the advance of $6.24 was not sufficient to pay for holding. In 14 years when cabbage was high in the fall, they advanced $17.41.

The most profitable policy to pursue in the case of potatoes and cabbage, is the reverse of the most profitable policy for marketing grain. High priced grain normally calls for prompt sale, but high priced potatoes and cabbage are likely to pay for holding. Cheap grain is likely to pay for storage, but cheap potatoes and cabbage rarely pay for storage.

The tendency of grain prices is to return to the normal level, as grain is readily held over until a new crop appears. Apparently, the difficulty of getting rid of a large crop of potatoes or cabbages is not fully realized.

G. F. Warren and F. A. Pearson

PRODUCTION TRENDS IN THE DAIRY INDUSTRY, 1920 TO 1926

The total production of milk in the United States has shown a steady upward trend during the last seven years. The rate of increase for the various dairy products, however, has not been uniform. The accompanying table shows the average annual increase for a number of these products, expressed as a percentage of the average for the period.

The lowest rate of increase has occurred in the manufacture of condensed and evaporated milk. The combined production of these commodities has increased at the rate of only 2 per cent each year. The production of canned sweetened condensed milk has actually decreased at the rate of 10.5 per cent a year, but this decrease has been more than offset by an increase of 3.6 per cent in the production of canned evaporated milk. Cheese, also, has shown only a relatively small increase during this period (3.7 per cent).

TRENDS IN THE UNITED STATES PRODUCTION OF CERTAIN DAIRY PRODUCTS AND IN THE RECEIPTS OF MILK AND CREAM AT NEW YORK

Average annual change expressed as a percentage of the average for the seven-years period, 1920 to 1926*

Product	Annual change
	per cent
Condensed and evaporated milk (unskimmed)	+2.0
All cheese, except cottage, pot and bakers'	+3.7
Creamery butter	+7.6
Ice cream and ice cream stock	+8.9
Receipts of milk at New York	+4.6
Receipts of cream at New York	+6.0

* Lines of secular trend fitted by method of least squares. Production data from the Bureau of Agricultural Economics, United States Department of Agriculture. Milk and cream receipts from the Milk Reporter.

Creamery butter and ice cream, on the other hand, have increased fairly rapidly. Both of these products are probably more sensitive to industrial conditions than are canned milk and cheese, and the demand for them has been high because of the general prosperity of the urban population during the last few years.

Approximately two-thirds of all the milk handled in New York State plants is now marketed as fluid milk or cream. The rate at which the New York metropolitan area is increasing its consumption of these products is therefore shown in the same table for comparison. Here, again, the increase of the semi-luxury, cream, has been more rapid than that of milk. Both, however, are increasing at a sufficiently high rate to insure a good market.

H. A. Ross.

THE COLLECTION OF TAXES ON FARM PROPERTY IN NEW YORK

In New York, state, county, and town taxes are collected by town collectors, one in each town.[1] On taxes collected within 30 days from the date of the notice that the collector has received the tax roll, the collector is entitled to receive 1 per cent;[2] on taxes received after the 30 day period he is entitled to 5 per cent; and when taxes are returned to the county treasurer as unpaid he receives 2 per cent of their sum, except in Suffolk, Delaware, Lewis, and Herkimer Counties, where no fees are paid for returned taxes.

School taxes with few exceptions are collected by special school district collectors who are entitled to 1 per cent for collections made within the first 30 days and 5 per cent for collections made after that period. They do not receive 2 per cent for unpaid taxes.

Fees for both town and school tax collection are not a part of taxes collected but are in addition to them. With the exception of fees paid for taxes not collected, their payment is a strictly private matter between the taxpayer and the collector. The collector collects the tax, then the fee for collection. He turns over the tax money to the proper local or county officials and pockets his fees. He is obliged to give an account of them to no one. Their sum appears in no public document.

In 1925 or 1926 town collectors in one hundred and sixty towns in New York, collected 96.2 per cent of the total levy with whose collection they were charged. Many succeeded in collecting all or nearly all the sums on their respective tax rolls. A few returned a large per cent as uncollected. One failed to collect 18.1 per cent; another 14.5 per cent; another 25.3 per cent; and still another 27.8 per cent of the tax levy in his town.

The rewards for collecting ranged from $89.63 to $4,209.25. The average pay was $481.75 and the median was $380.78. The greater part of the collectors' fees came from collections made within 30 days. These accounted on the average for 67.5 per cent of the total. Fees for late collections were next. They were 25.4 per cent. Fees for taxes not collected were 5.8 per cent of the reward of tax collectors.

The fees for collection of state, county and town taxes averaged 1.3 per cent of the total paid by the taxpayer.

Two questions arise. Are the rewards of town collectors too great? Is there a better system of collection? The second is the fundamental question. It can be answered only after a comparison with other systems of tax collection in other states.

The average cost of maintaining county treasurers' offices in ninety-one counties in nineteen states where the county treasurers collect taxes, including in this maintenance all costs of tax collection, was 0.77 per cent. In New York, fees paid town collectors when added to the towns' share of county treasurer maintenance averaged 1.9 per cent of the sum paid by taxpayers.

Not all the difference between the two systems can be expressed by a comparison of average costs. In the case of county treasurer collection of taxes with the treasurer on a salary basis, the percentage cost of tax collection declines sharply as the size of the collection increases. In the New York system it does not.

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[1] Article 4, especially section 81.

[2] If the aggregate amount of the roll is $2,000 or less he is entitled to 2 per cent.

The size of the unit explains in part. A town is too small a unit for the most efficient methods of collection. Hence payment for collection must be enough to cover the cost of inefficient methods of collection. Another reason is the fee system. The fee system in New York is rigidly inelastic. The collector receives his 1 per cent, 2 or 5 per cent regardless of the amount of taxes collected. There is no room for economy due to increased size of collections. Rewards of collectors increase automatically with increases in tax rolls, varying only with the proportions which fall into the 1, 2 or 5 per cent classes.

The New York system can be improved by enlarging the unit of collection and instituting a salary system of reward. A large unit of collection would make efficient methods of collection possible. A salary system of reward would introduce needed elasticity into the system in that under it payment could be adjusted more closely to service rendered. The question is how much should be paid to obtain an efficient collector or treasurer-collector of taxes. This is a matter of so many dollars and can and should be decided only in terms of dollars. All that a fee system does is to avoid the real question by assuming arbitrarily that a certain per cent or schedule of percentages should be paid for collecting taxes.

How low costs of tax collection in New York would drop with the institution of county treasurer collection, and a salary reward, is of course uncertain. But the experience of Ohio, another state with large collections may be suggestive. In 1923, county treasurers in Ohio collected taxes and paid the entire cost of operating their offices for 0.36 per cent of the taxes collected by them.[3]

M. Slade Kendrick

INDEX NUMBERS OF À-LA-CARTE PRICES OF FOOD

Index numbers of a-la-carte prices in two New York City hotels, together with retail, wholesale, and farm prices of food are shown in Table I. In 1926 the average price of 34 prepared foods in Hotel "A" was 49 per cent above pre-war. The average price of 27 prepared foods in Hotel "B" was 71 per cent above pre-war. In the same year United States retail prices of food were 74 per cent above pre-war, and farm prices of food 54 per cent above pre-war.

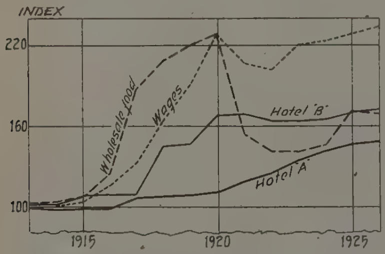

FIGURE 1.—INDEX NUMBERS OF FOOD AT À-LA-CARTE PRICES IN TWO NEW YORK CITY HOTELS AND AT WHOLESALE PRICES, EARNINGS OF NEW YORK STATE FACTORY WORKERS, 1913-1926.

During inflation, à-la-carte prices of food did not rise as rapidly as did wholesale prices of food or wages. With deflation à-la-carte prices did not decline with wholesale prices of food; wages remained high.

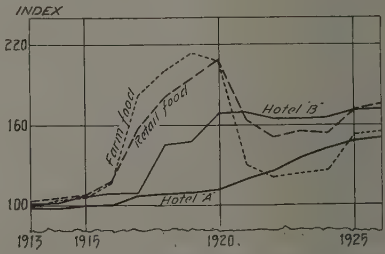

FIGURE 2.—INDEX NUMBERS OF FOOD AT À-LA-CARTE PRICES IN TWO NEW YORK CITY HOTELS AND AT RETAIL AND FARM PRICES.

With inflation, prices of prepared food in these hotels did not advance as rapidly as farm prices or retail prices of food. With deflation, prices of hotel foods did not decline with farm prices or with retail prices.

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[3] Information furnished by the office of the Tax Commission of Ohio.

TABLE 1.—INDEX NUMBERS OF PRICES OF FOOD, 1910-1926[1] (1910-14 = 100)

Year	À-la-carte prices Hotel "A"[2]	À-la-carte prices hotel "B"[3]	United States prices		
			Retail prices	Wholesale prices (processed)	Farm prices
1910	101	98	96	100	103
1911	101	98	94	90	92
1912	101	98	100	104	100
1913	99	102	103	102	100
1914	98	102	106	104	105
1915	99	107	107	107	106
1916	99	109	117	125	117
1917	107	109	156	187	181
1918	108	145	180	208	200
1919	109	147	194	220	213
1920	111	168	207	228	207
1921	119	169	163	154	130
1922	125	164	150	142	121
1923	135	164	154	141	124
1924	142	165	153	146	126
1925	147	170	169	171	152
1926	149	171	174	169	154

[1] The indexes of retail, wholesale, and farm food prices are those reported in FARM ECONOMICS No. 42, p. 616, February 1927, and the methods of calculation are there described. The same food materials are used in the three indexes. The indexes of a-la-carte prices of food are based on the records of two New York City hotels. The dishes upon which the indexes are based represent the same food materials used in the indexes of retail, wholesale, and farm prices with which they are compared, except for the addition of a few fruits and vegetables in the hotel index.

[2] Unweighted index of the 34 prepared foods: bread, corn or wheat cakes, potatoes, chicken sandwich, creamed chicken, boiled eggs, omelet, bacon and eggs, milk, scalloped beef in cream, corn-beef hash, hot beef sandwich, roast beef, steak, veal cutlets, lamb chops, roast pork, bacon, broiled ham, salmon, cooked cereal and cream, baked beans, macaroni, cabbage, stewed corn, stewed tomatoes, baked apples, bananas, prunes, oranges, grapefruit, pie, cake, and coffee.

[3] Unweighted index of 27 prepared foods: potatoes, chicken sandwich, creamed chicken, milk, scalloped beef, corn beef hash, hot beef sandwich, roast beef, steak, veal cutlets, lamb chops, roast pork, broiled ham, salmon, macaroni, cabbage, stewed corn, stewed tomatoes, baked apples with cream, sliced bananas with cream, prunes, oranges, grapefruit, pudding, pie, cake, and coffee.

Considerable divergence is apparent between the index numbers for the two hotels. For Hotel "A" in 1926 the index number of a-la-carte prices, 149, is similar to food at United States farm prices, 154; for Hotel "B", 171, it is similar to the index number of food at retail prices, 174.

During the World War, farm, wholesale, and retail prices of food responded to inflation much earlier than did the prices of these hotel dishes and to a much greater extent. (Figures 1 and 2). Since 1925 there has been no marked discrepancy among these various food indexes.

The monthly index numbers of a-la-carte prices for Hotel "A" are shown in Table II. The striking feature of the table is the comparative stability of a-la-carte prices from 1910 to 1920. Prices did not advance as much as 10 per cent until the fall of 1919.

TABLE 2.—INDEX NUMBERS OF À-LA-CARTE PRICES OF 34 FOODS SERVED IN HOTEL "A", NEW YORK CITY, 1910-1926*
1910-14 = 100

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1910	101	101	101	101	101	101	101	101	101	102	102	102	101
1911	101	101	101	101	101	101	101	101	101	102	102	102	101
1912	101	101	101	101	101	101	101	101	101	100	100	100	101
1913	100	100	100	100	109	100	100	98	98	98	98	98	99
1914	97	97	97	97	97	97	97	99	99	99	99	99	98
1915	98	98	98	99	99	99	99	100	100	100	100	100	99
1916	99	99	99	99	99	99	99	100	100	100	100	100	99
1917	107	107	107	107	107	107	107	107	107	107	107	107	107
1918	107	107	107	107	107	107	109	109	109	109	109	109	108
1919	109	109	109	109	109	109	109	109	110	110	110	110	109
1920	110	110	110	110	110	110	112	112	112	112	112	112	111
1921	119	119	119	119	119	119	119	119	119	119	119	119	119
1922	119	122	122	122	126	126	126	127	127	127	127	127	125
1923	126	126	126	126	140	140	140	140	140	140	140	140	135
1924	140	140	140	140	140	140	141	142	147	147	147	147	142
1925	146	146	147	147	147	147	147	147	147	147	147	147	147
1926	149	149	149	149	149	149	149	150	150	150	150	150	149

*Footnote to Table 1.

Food prices in these two hotels have followed the general course of wages more nearly than they have followed wholesale or retail food prices. Even though wages went up more slowly than wholesale food prices during the War, they reached about the same peak in 1920 and have remained high. (Figure 1)

Cheaper food since the War has doubtless had some influence in straightening out the hotel curves. However, an important reason why these à-la-carte prices have not more nearly approached the wage line may be that the hotels are serving a larger number of meals since the War, and without a proportionate increase in overhead. With the increased number of automobiles and the passing of the household servant, a greater proportion of the population are having meals in hotels and restaurants than was the custom before the War. Competition of cafeterias may also have been a factor in preventing a greater rise in hotel food prices.

HELEN CANON

POULTRY HOUSING ON LONG ISLAND

On 32 Long Island farms visited in 1926 there were 111 different laying houses, an average of almost four to the farm. These houses were divided into 307 pens or an average of about 3 pens per house. In addition to these pens there were several feed rooms partitioned off in the buildings which were not included as pens or in the floor space given below. The average value of all buildings used for the laying flocks on these farms was $3383 per farm or $256 per 100 birds.

The average length of 111 houses was 74.3 feet. As many farms had houses longer than 65 as less than 65 feet in length.

The average width of the 111 houses was 20.2 feet, giving an average square feet of 1501 per house for the use of the birds. The number of houses of each width are given in Table I. Of the total, 62.5 per cent of the farms had houses exactly 20 feet wide. Of the others there were as many less than 20 feet as more than 20 feet in width.

TABLE I. NUMBER OF HOUSES OF EACH WIDTH ON 32 LONG ISLAND POULTRY FARMS

Width in feet	Number of houses
12	13
14	1
16	12
17	2
18	12
20	51
21	4
22	1
23	2
24	5
26	2
30	2
32	1
36	1
Total	111

The average number of birds per farm was 1322. The average number per pen was 138 birds on the monthly inventory basis, altho this varied from 174 birds per pen at the beginning of the year to 77 birds at the end of September.

The average number of square feet per bird in the house on October 1, 1926 was 3.1 per bird. As some of the birds died and as culling took place the average number of square feet per bird was gradually increased each month until at the end of September it averaged 7.1 per bird then in the laying house. The average for the year was 3.9 per bird, Table II.

TABLE II. NUMBER OF BIRDS PER PEN AND NUMBER OF SQUARE FEET PER BIRD IN LAYING HOUSES ON 32 LONG ISLAND POULTRY FARMS, 111 HOUSES, 307 PENS

	Square feet per bird	Birds per pen
October	3.1	174
November	3.2	167
December	3.4	162
January	3.4	159
February	3.5	155
March	3.6	152
April	3.7	147
May	3.8	141
June	4.1	133
July	4.4	123
August	5.0	108
September	5.8	94
September, end	7.1	77
Average	3.9	138

E. G. MISNER

RETURNS FROM POULTRY FARMING ON 121 UP-STATE FARMS[1]

Records for the year ending September 30, 1926, were taken on 121 farms in New York, outside of Long Island. Some of these farms were specialized poultry farms and others combined poultry with general or dairy farming. The average size of the farms was 72 acres, valued at $62 per acre.

The size of flock varied from 246 to 4028 birds, averaging 1020 birds. There were 40 farms with less than 700 birds per farm, 52 with from 700 to 1200, and 29 with more than 1200. Of the total birds, 58 per cent were pullets, 40 per cent hens and 2 per cent males. The proportion of the pullets in the flock ranged from 23 to 100 per cent.

The total capital was $16,862 per farm, with 73 per cent in real estate, 12.5 per cent in poultry, and the remainder in equipment, other livestock and supplies. The average receipts were $7,527 per farm, of which 54.2 per cent was from market eggs, 20.9 per cent from poultry sold, and the remainder from other sources. The sales of crops comprised 8.8 per cent of the total income. The average price received for eggs was 41.6 cents a dozen.

The farm expenses averaged $5,030 per farm. The difference between the farm expenses and receipts averaged $2,497 per farm. Interest on the capital at 5 per cent, when deducted from the farm income, leaves a labor income of $1,654 for the 121 farmers. The labor income varied from —$3,361 to $7,267; 11.6 per cent failed to make interest, 26.4 per cent made from $1 to $999, 43 per cent made labor incomes of from $1,000 to $3,000, and 19 per cent made labor incomes of over $3,000.

The average return on the capital after the value of the operator's time was deducted from the labor income, was 7.4 per cent, compared with 7.6 per cent on Long Island farms. Because of cheap feed and good prices for eggs, the returns were better than normal.

The cost of producing eggs averaged 38.8 cents per dozen, and the average value was 42.1 cents. The returns per hour of labor in producing eggs was 43.1 cents.

Of the gross cost of egg production, 46.2 per cent was for feed, 19.8 per cent for labor, 18.2 per cent for depreciation on flock, and the remaining 15.8 per cent for other costs.

The feed cost per bird was $1.95, the total cost $4.22. The returns for eggs sold were $4.06 per fowl, and the total returns, $4.58 per fowl, allowing a gain of 36 cents per fowl, or $362 per farm, for the laying flock.

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[1] Returns for poultry farming on Long Island farms were reported in FARM ECONOMICS, No. 45.

The average cost of raising 98,970 pullets was $1.10 per pullet. Of this, feed amounted to 64.3 per cent, labor 17.4 and other costs 18.3 per cent, use of buildings being the next largest item.

The cost of incubating eggs per 1000 chicks was $117, of which 68.7 per cent was the value of eggs set.

The flock production averaged 35.7 per cent for the year. Production was lowest in October, 11.8 per cent, and highest in May, 54.6 per cent. There were only 3 months of the year, April, May and June, when flock production was more than 50 per cent. The average number of eggs per hen was 130, calculated on the monthly inventory basis.

The relation of size of flock to net returns from poultry farming are shown in Table I. The large flocks produced eggs at about the same cost, and had as good production per hen, but the eggs brought more per dozen, thus showing greater gains per hen than was the case in small flocks. The labor incomes averaged $2,361 for 29 large flocks with an average of 1908 fowls, and $1,223 for 40 small flocks with an average of 523 fowls per farm.

TABLE I. RELATION OF SIZE OF FLOCK TO NET RETURNS

	Average size of flock		
	Less than 700	From 700-1200	More than 1200
Number of farms	40	52	29
Average number pullets, hens and males per farm	531	900	1,908
Average number pullets and hens per farm	523	885	1,872
Average number eggs per hen	135	129	132
Average labor income	$1,223	$1,592	$2,361
Cost of producing a dozen eggs	0.402	0.380	0.388
Value of eggs per dozen	0.408	0.410	0.434
Gain per hen	0.08	0.32	0.49
Gain per dozen eggs	0.007	0.030	0.047
Returns per hour of labor	0.416	0.555	0.682

The higher labor incomes with the large flocks were due not only to the increased labor efficiency that accompanies large flocks, but also to the greater sales of baby chicks and pullets where larger flocks were kept.

A comparison of some features of the poultry business on Long Island with the business on up-state farms is given in Table II.

TABLE II. COMPARSION OF POULTRY FARMING ON LONG ISLAND AND UP-STATE

	32 Long Island farms	121 farms not on Long Island
Average number of fowls per farm	1,322	1,020
Average capital per farm	$29,242	$16,862
Per cent of flock pullets	68.1	58.0
Eggs produced per hen	142	130
Price received for market eggs per dozen	$0.479	$0.416
Value of eggs sold per hen	5.30	4.56
Per cent flock production for year	39.0	35.7
Feed cost per fowl in laying flock	2.16	1.95
Total cost of keeping a fowl	4.85	4.22
Total returns per fowl	5.72	4.58
Cost of raising a pullet	1.18	1.10
Average labor income	$2,471	$1,654

Long Island producers received 6.3 cents more per dozen and obtained slightly higher production per fowl. The total costs were $0.63 more per fowl, of which $0.21 was higher feed cost, but the total returns were $1.14 more per bird on the Long Island farms.

The cost of raising pullets was 8 cents less up-state than on the Island. The average price received for all cull hens disposed of for meat was $1.05 per bird (cost of raising pullets $1.18) on the Island, while the price received for all cull hens sold for meat up-state averaged $0.82 (cost of raising a pullet $1.10). The difference between the cost of raising a pullet and the value of a cull hen was 15 cents more up-state than on Long Island.[1]

E. G. MISNER.

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[1] Mimeographed reports showing all the details of this and the Long Island study will be sent upon request to the writer.

DISTRIBUTION OF LOSSES OF FARM BUILDINGS BY FIRE

An analysis of 851 fire-loss cases on farm properties scattered throughout New England, New York and New Jersey, indicates clearly the greater fire hazard connected with the house and barn, as compared with other farm buildings.

In 69.2 per cent of all cases, the house or barn, or both, were destroyed without the loss of other buildings, Table I. In 89.7 per cent of all cases, the loss of the house or barn was involved, whereas other buildings were destroyed in only 30.8 per cent of all cases.

While the number of cases is limited, it is believed to be sufficiently large to provide a rough index of fire hazard. All farm buildings as well as personal property should be insured. However the house and barn should receive first consideration, not only because the fire hazard is greater, but because they are essential to the continued operation of the farm. If economy must be practised in the matter of fire insurance on farm buildings, it should not be at the expense of the major buildings.

TABLE I. DISTRIBUTION OF LOSSES OF FARM BUILDINGS IN 851 FIRE LOSS CASES

Building destroyed	Number of cases	Per cent of all cases
House	275	32.3
Barn	284	33.4
House and barn	30	3.5
All buildings	107	12.6
House and buildings other than barn	13	1.5
Barn and buildings other than house	54	6.4
Buildings other than house or barn	88	10.3
TOTAL	851	100.0

F. F. Hill.

RETAIL PRICES OF FEEDS[1]

This study of the retail price of feeds was made possible thru the cooperation of L. S. Tenney of the Bureau of Agricultural Economics, United States Department of Agriculture, and G. F. Warren, of the Department of Agricultural Economics and Farm Management, New York State College of Agriculture.

Yearly average retail prices of seventeen feeds used by New York State farmers are given in Table, 1 as well as average prices for each of the last nine months. These prices are for charge sales of 100 to 500-pound lots at retail feed stores in the dairy region of central New York, representing the actual cost to farmers of purchased feeds.

Index numbers corresponding to these prices are given in Table 2. For each feed except dried beet pulp, meat scrap, and crushed oyster shell, the average price for the corresponding month, 1910-14, is called 100. This eliminates the effect of regular seasonal changes in price. For the three feeds named above, there appeared to be no seasonal variation, so a single price, typical of the 1910-14 period, was called 100 for all months.

The index numbers for corn-meal, corn and oat feed, and bran in 1891 show feed prices at that time to have been nearly as high as during the pre-war years. During the following years, they dropped steadily until in 1897 feed prices were but little more than half pre-war. Prices rose during the next ten years, until the index numbers in 1908 were once more about 100. They were then fairly steady until 1916, when they began an abrupt rise which culminated in 1920. During 1920, prices reached a peak of

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[1] This study was made possible thru the kind cooperation of C. C. Allen, Greene; T. Chickering, Howe Cave; Mr. Eaton, Norwich; G. B. Fletcher, Oxford; W. H. Jennings, Hamilton; A. T. Kelsey, Mecklenberg; C. E. Kiff, Delhi; G. W. McNitt & Son, Norwich; B. H. Morris, Oneonta; I. L. Richer & Co., New Berlin; and Chas. Seeley, Candor.

TABLE 1.—AVERAGE RETAIL CREDIT PRICES OF FEEDS IN CENTRAL NEW YORK, 1891-1927
(dollars per hundredweight except corn and oats which is in dollars per bushel)

Date	Corn (bu.)	Cracked corn	Corn meal	Gluten feed	White hominy	Corn & oat feed	Oats (bu.)	Ground oats	Wheat	Wheat mix feed	Bran	Standard midds	Cotton seed meal	Linseed oil meal	Dried beet pulp	Crushed oyster shell	Meat scrap
1891	—	—	1.58	—	—	1.75	—	—	—	—	1.27	—	—	—	—	—	—
1892	—	—	1.25	—	—	1.43	—	—	—	—	1.10	—	—	—	—	—	—
1893	—	—	1.17	—	—	1.35	—	—	—	—	1.06	—	—	—	—	—	—
1894	—	—	1.18	1.22	—	1.35	—	—	—	—	1.04	—	1.29	1.56	—	—	—
1895	.61	—	1.16	1.15	.99	1.32	.42	—	1.07	1.03	1.01	—	1.09	1.29	—	—	—
1896	.44	.94	.85	—	.72	1.03	.32	1.09	—	.79	.78	—	1.17	—	—	—	—
1897	.42	.92	.82	—	.72	1.00	.32	1.09	1.00	.80	.79	—	1.17	1.20	—	—	—
1898	.47	1.07	.90	—	.84	1.09	.40	—	1.11	.90	.90	—	1.15	—	—	—	—
1899	.50	1.06	.96	.94	.89	1.14	.39	1.35	1.11	.95	.91	—	1.21	—	—	—	—
1900	.54	1.07	1.01	1.03	.94	1.13	.37	1.30	1.03	1.01	.95	—	1.36	1.51	—	.80	—
1901	.63	1.27	1.19	1.12	1.08	1.35	.44	1.49	1.31	1.06	1.02	1.03	1.36	—	—	.80	—
1902	.78	1.59	1.49	1.26	1.29	1.62	.55	1.96	1.42	1.18	1.14	—	1.49	—	—	.80	—
1903	.64	1.36	1.26	1.29	1.15	1.54	.49	1.80	1.64	1.21	1.20	1.11	1.45	—	—	.80	—
1904	.69	1.36	1.27	1.23	1.18	1.56	.51	1.79	1.66	1.26	1.21	1.19	1.44	—	—	.80	—
1905	.68	1.35	1.26	1.29	1.16	1.42	.43	1.54	1.72	1.20	1.13	1.20	1.43	1.65	—	.76	—
1906	.65	1.31	1.22	1.30	1.20	1.40	.47	1.57	1.60	1.24	1.21	1.22	1.62	1.80	—	.75	—
1907	.71	1.36	1.30	1.42	1.32	1.56	.58	1.96	1.82	1.41	1.39	1.36	1.55	1.77	—	.75	—
1908	.88	1.65	1.61	1.55	1.49	1.81	.65	2.23	2.02	1.50	1.46	1.49	1.61	1.75	—	.75	3.00
1909	.85	1.62	1.57	1.51	1.52	1.74	.63	2.18	2.15	1.50	1.48	1.51	1.71	1.83	—	.75	3.06
1910	.79	1.49	1.45	1.48	1.38	1.59	.55	1.87	2.02	1.47	1.47	1.50	1.81	2.01	—	.75	3.33
1911	.78	1.47	1.43	1.42	1.67	1.56	.53	1.74	2.00	1.53	1.51	1.52	1.63	2.05	1.31	.75	3.50
1912	.89	1.68	1.63	1.55	1.57	1.77	.61	1.90	2.10	1.60	1.56	1.58	1.71	2.23	1.34	.75	3.35
1913	.80	1.52	1.48	1.43	1.36	1.56	.52	1.63	2.03	1.42	1.43	1.52	1.73	1.82	1.36	.75	3.25
1914	.91	1.72	1.68	1.56	1.53	1.71	.56	1.75	2.06	1.57	1.56	1.58	1.73	1.86	1.42	.75	3.25
1915	.94	1.82	1.71	1.49	1.61	1.85	.65	2.02	2.42	1.59	1.51	1.59	1.73	2.05	1.40	.75	3.25
1916	1.01	1.94	1.83	1.62	1.67	1.89	.61	2.03	2.41	1.58	1.48	1.59	1.92	2.09	—	.75	3.26
1917	1.92	3.52	3.42	2.48	2.91	3.05	.84	2.75	—	2.41	2.19	2.52	2.56	2.77	—	.75	4.30
1918	2.01	3.77	3.58	2.82	3.13	3.55	1.02	3.37	—	—	2.45	2.56	3.06	3.10	—	.99	5.87
1919	1.95	3.68	3.57	3.36	3.45	3.36	.93	2.98	4.64	2.94	2.59	2.89	3.85	3.93	2.94	1.29	5.85
1920	1.92	3.68	3.55	3.62	3.43	3.69	1.13	3.53	5.30	3.41	2.91	—	3.86	3.79	3.21	1.42	6.47
1921	.99	1.86	1.77	2.13	1.75	1.96	.66	2.09	3.82	2.17	1.66	1.96	2.43	2.53	1.94	1.42	6.73
1922	.95	1.80	1.74	2.08	1.68	1.89	.63	1.99	3.04	1.93	1.65	1.82	2.86	2.91	—	1.15	5.26
1923	1.12	2.24	2.17	2.47	2.07	2.18	.68	2.16	2.70	2.07	1.92	2.05	2.95	2.82	—	1.15	5.41
1924	1.31	2.42	2.39	2.31	2.21	2.35	.74	2.35	2.72	2.08	1.82	1.94	2.82	2.70	—	1.15	4.68
1925	1.42	2.64	2.59	2.30	2.31	2.46	.72	2.28	3.84	2.31	1.93	2.10	2.61	2.76	—	1.15	4.24
1926	1.10	2.08	2.00	2.10	1.84	2.09	.65	2.11	3.42	2.16	1.87	1.95	2.24	2.88	2.37	1.15	4.29
1927																	
Jan.	1.06	2.00	1.95	1.88	1.90	2.10	.69	2.20	3.25	2.16	1.91	2.10	1.95	2.80	2.01	1.15	4.50
Feb.	1.06	2.00	1.95	2.03	1.90	2.10	.69	2.20	3.25	2.20	1.98	2.15	2.13	2.80	2.13	1.15	4.63
Mar.	1.06	2.00	1.95	2.05	1.90	2.10	.69	2.20	3.25	2.20	2.00	2.20	2.20	2.80	2.15	1.15	4.75
Apr.	1.06	2.00	1.95	2.01	1.85	2.10	.69	2.20	3.25	2.20	2.00	2.20	2.21	2.80	2.15	1.15	4.75
May	1.15	2.13	2.08	2.03	1.93	2.18	.73	2.30	3.25	2.20	2.10	2.20	2.26	2.80	2.15	1.15	4.75
June	1.23	2.30	2.25	2.14	2.10	2.29	.73	2.34	3.25	2.24	2.13	2.20	2.34	2.80	2.15	1.15	4.75
July	1.33	2.47	2.47	2.15	2.15	2.36	.73	2.35	3.25	2.22	2.11	2.29	2.37	2.80	2.15	1.15	4.75
Aug.	1.37	2.54	2.54	2.15	2.19	2.41	.73	2.35	3.25	2.23	2.10	2.40	2.41	2.81	2.18	1.15	4.75
Sept.	1.37	2.58	2.58	2.15	2.33	2.45	.73	2.35	3.19	2.30	2.08	2.43	2.48	2.86	2.25	1.15	4.75

TABLE 2.—INDEX NUMBERS OF AVERAGE RETAIL CREDIT PRICES OF FEEDS, 1891-1927
(Corresponding months, 1910-14 = 100)

Date	Corn	Cracked corn	Corn meal	Gluten feed	White hominy	Corn & oat feed	Oats	Ground oats	Wheat	Wheat mix feed	Bran	Standard midds	Cotton-seed meal	Linseed oil meal	Beet pulp	Crushed oyster shells	Meat scraps
1891	—	—	103	—	—	107	—	—	—	—	84	—	—	—	—	—	—
1892	—	—	82	—	—	87	—	—	—	—	73	—	—	—	—	—	—
1893	—	—	76	—	—	82	—	—	—	67	70	—	—	—	—	—	—
1894	—	—	77	76	—	82	—	—	—	—	69	—	76	78	—	—	—
1895	73	—	76	77	69	80	75	—	52	68	67	—	63	65	—	—	—
1896	53	60	56	—	50	63	58	61	48	52	52	—	68	—	—	—	—
1897	50	58	54	—	50	61	58	62	49	52	53	—	68	60	—	—	—
1898	57	67	59	—	58	67	71	—	54	59	60	—	67	—	—	—	—
1899	60	67	63	63	61	70	73	76	54	62	60	—	70	—	—	—	—
1900	65	68	66	69	65	69	66	73	50	66	63	—	79	75	—	107	—
1901	76	80	77	76	75	82	80	84	64	70	67	67	79	—	—	107	—
1902	94	101	98	85	89	99	99	110	69	78	75	—	87	—	—	107	—
1903	80	86	82	87	80	95	90	100	80	80	79	72	84	—	—	107	—
1904	83	87	83	83	82	95	92	101	81	83	80	77	84	—	—	107	—
1905	82	86	82	87	80	87	79	86	84	79	75	78	83	83	—	101	—
1906	79	83	79	87	83	86	84	88	78	81	80	79	94	90	—	100	—
1907	84	86	84	95	91	87	105	110	89	93	92	89	90	88	—	100	—
1908	106	105	105	104	103	111	117	125	99	99	97	97	94	87	—	100	92
1909	102	103	102	101	105	106	113	122	96	98	98	98	99	92	—	100	94
1910	95	95	95	99	95	97	99	105	99	97	97	97	105	101	—	100	103
1911	93	93	93	95	96	95	96	98	98	101	100	98	95	103	95	100	108
1912	108	107	106	104	109	108	109	107	103	105	104	103	100	111	97	100	103
1913	96	96	96	96	94	95	94	92	99	94	95	98	100	91	98	100	100
1914	109	109	109	105	106	105	102	99	101	103	104	102	100	93	103	100	100
1915	113	115	112	101	111	113	117	113	119	105	100	103	101	102	101	100	100
1916	121	122	120	109	116	115	110	114	118	104	98	103	112	105	—	100	101
1917	228	221	221	167	201	186	150	155	—	159	144	164	149	139	—	100	131
1918	232	240	234	190	216	217	184	189	—	—	162	166	178	155	—	132	181
1919	234	232	233	225	238	205	167	168	227	194	171	188	224	196	221	173	181
1920	232	234	234	243	237	224	202	198	261	225	193	—	224	190	231	189	199
1921	120	119	117	143	121	120	118	117	187	143	110	128	141	127	140	189	172
1922	114	114	113	140	116	116	114	112	148	127	109	118	166	145	—	153	162
1923	143	142	142	166	143	133	122	125	132	136	127	133	171	141	—	153	167
1924	156	152	155	155	152	143	132	132	133	137	120	126	164	135	—	153	143
1925	172	168	170	154	159	150	128	128	188	152	128	137	151	138	—	153	130
1926	132	132	131	141	127	127	117	119	169	142	123	127	130	144	171	153	132
1927																	
Jan.	136	134	135	121	130	135	128	124	160	144	127	138	113	135	145	153	138
Feb.	138	137	137	129	131	134	125	124	159	142	129	141	123	138	153	153	142
Mar.	139	137	138	135	135	134	125	124	158	142	129	144	129	139	155	153	146
Apr.	134	134	135	137	132	132	123	125	158	141	130	144	129	141	155	153	146
May	144	139	140	143	138	135	130	129	161	143	136	144	131	142	155	153	146
June	146	145	148	150	149	139	128	129	161	150	139	144	134	142	155	152	146
July	156	153	158	151	151	139	124	124	158	151	141	149	136	144	155	153	146
Aug.	151	151	155	144	148	140	126	134	158	150	139	156	138	143	157	153	146
Sept.	148	147	152	140	150	142	130	131	155	151	137	156	141	144	162	153	146

about two and one-half times the pre-war level, so that the average for the year was more than twice as high as it was before the war. By 1922 they had dropped to only one-third above pre-war. Since then prices have been about one-half above pre-war figures, with the exception of 1926, when they were comparable to 1921.

From October, 1926, to July, 1927, prices of corn products rose steadily, but dropped considerably in August and September, in view of the prospect of a better corn crop than had been anticipated. Although the price of wheat stayed practically constant during this period, wheat products rose materially in price, as did oats. Linseed oil meal remained steady in price, apparently not having been affected by the low price of cottonseed meal during the winter.

Compared with pre-war prices, wheat, wheat products, and beet pulp in September, 1927, were highest, while oats was by far the lowest. Beet pulp and standard middlings were the highest in price of the dairy feeds, while corn-meal and wheat mixed feed were next highest. The index number for ground oats was 131; for corn meal, 152; for bran, 137; and for standard middlings, 156.

In Tables 3 and 4 are given a weighted average price for dairy feeds and for poultry feeds from 1901 to date. Data in Table 3 were computed from the prices of the more important feeds, weighted in the proportions in which they were used on a large number of New York dairy farms. Data in Table 4 are based on the prices of important feeds, weighted in the proportions in which they are used on a number of commercial poultry farms. The prices of poultry feeds have always been somewhat higher per ton than dairy feeds, and the difference increases with the upward trend of prices. Index numbers corresponding to these prices are given in Tables 5 and 6.

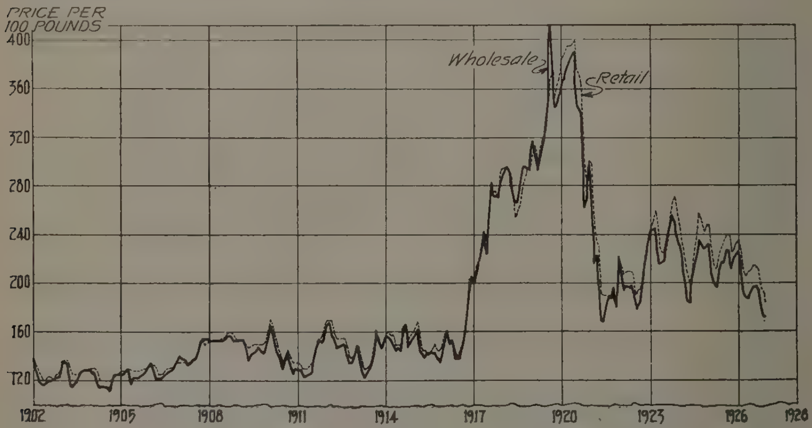

FIGURE 1.—WHOLESALE AND RETAIL PRICES OF GLUTEN FEED IN NEW YORK STATE 1902 to 1927

Retail prices of gluten feed follow wholesale prices very closely

In Figure I are plotted the monthly average retail and wholesale prices of gluten feed from January, 1902, to December, 1926. The retail prices follow the wholesale very closely. In the years prior to 1922, the retail price varies less widely than the wholesale, showing a small margin when prices are high and a wider one when they are low. Since 1922, retail prices have varied as widely as wholesale, with a fairly constant margin between them. Except during the years 1916-20, there is some indication of an irregular seasonal variation in price. The high point generally comes in the early winter and the low in the summer. These variations have been of much greater magnitude since the war than they were before.

TABLE 3.—MONTHLY WEIGHTED AVERAGE RETAIL CREDIT PRICE OF DAIRY FEEDS IN CENTRAL NEW YORK 1901-27
(dollars per hundredweight)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1901	1.13	1.12	1.12	1.13	1.12	1.14	1.13	1.23	1.25	1.26	1.33	1.50	1.21
1902	1.50	1.45	1.40	1.37	1.38	1.38	1.44	1.45	1.43	1.43	1.36	1.34	1.41
1903	1.32	1.40	1.42	1.37	1.35	1.35	1.37	1.37	1.38	1.37	1.33	1.33	1.36
1904	1.33	1.34	1.36	1.35	1.35	1.36	1.35	1.36	1.36	1.33	1.32	1.33	1.34
1905	1.32	1.32	1.33	1.33	1.32	1.33	1.32	1.32	1.32	1.30	1.30	1.29	1.32
1906	1.34	1.35	1.35	1.35	1.36	1.37	1.38	1.37	1.37	1.36	1.37	1.39	1.36
1907	1.40	1.41	1.43	1.43	1.44	1.48	1.48	1.52	1.61	1.66	1.62	1.60	1.51
1908	1.61	1.62	1.63	1.64	1.66	1.67	1.67	1.69	1.70	1.68	1.65	1.62	1.65
1909	1.61	1.63	1.65	1.65	1.68	1.70	1.69	1.68	1.65	1.63	1.58	1.62	1.65
1910	1.69	1.73	1.69	1.64	1.65	1.58	1.54	1.56	1.58	1.52	1.49	1.46	1.59
1911	1.46	1.45	1.43	1.43	1.45	1.48	1.54	1.59	1.62	1.67	1.69	1.71	1.54
1912	1.71	1.75	1.78	1.76	1.76	1.74	1.72	1.62	1.62	1.57	1.51	1.49	1.67
1913	1.50	1.49	1.45	1.42	1.43	1.47	1.49	1.55	1.64	1.62	1.57	1.58	1.52
1914	1.62	1.61	1.61	1.62	1.60	1.61	1.61	1.68	1.73	1.66	1.64	1.65	1.64
1915	1.69	1.77	1.72	1.69	1.69	1.66	1.66	1.69	1.69	1.57	1.56	1.59	1.67
1916	1.66	1.68	1.66	1.64	1.62	1.60	1.62	1.67	1.74	1.82	2.05	2.07	1.74
1917	2.10	2.23	2.24	2.51	2.68	2.60	2.67	2.90	2.86	2.79	2.78	2.99	2.60
1918	3.05	3.09	3.02	3.00	2.94	2.85	2.87	2.86	2.95	2.94	2.93	2.92	2.95
1919	3.01	3.00	2.93	3.01	3.12	3.15	3.35	3.57	3.53	3.39	3.34	3.48	3.25
1920	3.59	3.62	3.68	3.73	3.85	3.94	3.83	3.71	3.45	3.02	2.80	2.69	3.49
1921	2.57	2.28	2.21	2.11	1.97	1.95	1.95	1.94	1.93	1.85	1.80	1.96	2.04
1922	1.97	2.02	2.08	2.08	2.11	2.08	1.98	1.94	1.89	2.00	2.14	2.27	2.05
1923	2.31	2.33	2.38	2.33	2.26	2.24	2.18	2.22	2.33	2.41	2.45	2.36	2.32
1924	2.29	2.25	2.22	2.15	2.10	2.10	2.24	2.36	2.44	2.42	2.40	2.48	2.29
1925	2.54	2.41	2.28	2.18	2.29	2.39	2.37	2.37	2.34	2.18	2.18	2.21	2.31
1926	2.23	2.19	2.10	2.07	2.11	2.09	2.09	2.12	2.10	2.03	1.90	1.91	2.08
1927	2.02	2.10	2.12	2.10	2.16	2.24	2.27	2.29	2.31				

TABLE 4.—MONTHLY WEIGHTED AVERAGE RETAIL CREDIT PRICE OF POULTRY FEEDS IN CENTRAL NEW YORK. 1901-27
(dollars per hundredweight)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1901	1.14	1.14	1.14	1.17	1.19	1.19	1.20	1.25	1.33	1.34	1.35	1.46	1.24
1902	1.49	1.44	1.40	1.41	1.45	1.45	1.49	1.49	1.56	1.54	1.53	1.48	1.48
1903	1.44	1.40	1.44	1.39	1.42	1.44	1.45	1.43	1.46	1.45	1.42	1.41	1.43
1904	1.40	1.40	1.44	1.43	1.49	1.45	1.49	1.47	1.46	1.45	1.48	1.48	1.45
1905	1.45	1.44	1.44	1.44	1.47	1.45	1.49	1.47	1.48	1.41	1.42	1.41	1.45
1906	1.37	1.37	1.37	1.39	1.42	1.45	1.45	1.43	1.45	1.41	1.41	1.39	1.41
1907	1.40	1.43	1.46	1.47	1.50	1.52	1.54	1.59	1.69	1.73	1.77	1.70	1.57
1908	1.70	1.69	1.70	1.71	1.74	1.77	1.78	1.79	1.79	1.79	1.76	1.69	1.74
1909	1.68	1.69	1.76	1.76	1.87	1.84	1.82	1.83	1.81	1.79	1.68	1.67	1.77
1910	1.70	1.73	1.71	1.71	1.72	1.72	1.72	1.74	1.74	1.71	1.68	1.68	1.71
1911	1.66	1.63	1.63	1.64	1.66	1.68	1.74	1.76	1.77	1.81	1.83	1.80	1.72
1912	1.76	1.79	1.81	1.86	1.90	1.89	1.87	1.85	1.89	1.86	1.76	1.69	1.83
1913	1.65	1.64	1.64	1.65	1.62	1.69	1.71	1.74	1.80	1.78	1.77	1.78	1.71
1914	1.77	1.75	1.75	1.76	1.76	1.78	1.79	1.87	1.93	1.88	1.87	1.85	1.81
1915	1.93	1.98	1.96	1.94	1.95	1.97	1.96	2.00	2.00	1.88	1.83	1.83	1.93
1916	1.85	1.86	1.86	1.86	1.86	1.86	1.87	1.91	2.01	2.08	2.28	2.28	1.96
1917	2.40	2.49	2.57	2.82	3.03	3.08	3.20	3.50	3.47	3.52	3.54	3.60	3.10
1918	3.62	3.68	3.54	3.48	3.52	3.53	3.55	3.58	3.63	3.60	3.52	3.50	3.57
1919	3.52	3.46	3.45	3.55	3.63	3.70	3.86	3.97	3.83	3.71	3.61	3.67	3.66
1920	3.75	3.81	3.91	4.01	4.30	4.52	4.52	4.37	4.20	3.99	3.58	3.35	4.03
1921	3.24	2.89	2.65	2.72	2.66	2.62	2.60	2.47	2.44	2.19	2.15	2.23	2.57
1922	2.24	2.26	2.36	2.34	2.39	2.37	2.32	2.30	2.19	2.29	2.38	2.40	2.32
1923	2.44	2.46	2.47	2.47	2.44	2.43	2.40	2.44	2.49	2.51	2.50	2.45	2.46
1924	2.34	2.32	2.31	2.29	2.25	2.25	2.37	2.52	2.60	2.60	2.63	2.78	2.44
1925	2.92	2.96	2.86	2.74	2.79	2.87	2.84	2.83	2.75	2.65	2.58	2.54	2.78
1926	2.54	2.52	2.44	2.41	2.42	2.44	2.45	2.51	2.43	2.42	2.42	2.44	2.45
1927	2.43	2.45	2.47	2.47	2.53	2.59	2.67	2.70	2.70				

TABLE 5.—INDEX NUMBERS OF MONTHLY WEIGHTED AVERAGE RETAIL CREDIT PRICE OF DAIRY FEEDS IN CENTRAL NEW YORK, 1901-27*

(corresponding months 1910-14 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1901	71	69	70	72	71	72	72	77	76	78	84	95	76
1902	94	90	88	87	87	87	91	91	87	89	86	85	88
1903	83	86	89	87	85	85	87	86	84	85	84	84	85
1904	83	83	86	86	85	86	85	85	82	83	84	84	84
1905	83	81	84	85	84	84	84	83	80	81	82	82	83
1906	84	83	85	86	86	87	87	86	83	84	87	88	85
1907	88	87	90	91	91	94	94	95	98	103	103	101	95
1908	101	100	103	104	105	106	106	106	103	104	104	103	104
1909	101	101	104	105	106	108	107	105	100	101	100	103	103
1910	106	107	106	104	104	100	97	98	96	94	94	92	100
1911	91	90	90	91	92	94	97	99	98	104	107	108	97
1912	107	108	112	112	111	110	109	101	98	97	96	94	105
1913	94	92	91	90	91	93	94	97	99	101	99	100	95
1914	101	99	101	103	101	102	102	105	105	103	104	104	103
1915	106	109	108	108	107	105	105	106	102	97	99	101	104
1916	104	104	104	104	103	101	103	104	105	113	130	131	109
1917	131	138	141	160	170	165	169	181	173	173	176	189	164
1918	191	191	190	191	186	180	182	179	179	183	185	185	185
1919	188	185	184	192	197	199	212	223	214	211	211	220	201
1920	224	23	231	238	244	249	242	232	209	188	177	170	219
1921	161	141	139	134	125	123	123	121	117	115	114	124	128
1922	123	125	131	132	134	132	125	121	115	124	135	144	128
1923	144	144	150	148	143	142	138	139	141	150	155	149	145
1924	143	139	140	137	133	133	142	148	148	150	152	157	143
1925	159	149	143	139	145	151	150	148	142	135	138	140	145
1926	139	135	132	132	134	132	132	133	127	126	120	121	130
1927	126	130	133	134	137	142	144	143	140				

*The weights used in computing the weighted average price of dairy feeds are: ground oats, 15; corn meal, 10; hominy, 5; wheat bran, 15; wheat middlings, 5; wheat mixed feed, 5; gluten feed, 30; cottonseed meal, 10; and linseed oil meal, 5.

TABLE 6.—INDEX NUMBERS OF MONTHLY WEIGHTED AVERAGE RETAIL CREDIT PRICE OF POULTRY FEEDS IN CENTRAL NEW YORK, 1901-27†

(corresponding months 1910-14 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1901	67	67	67	68	69	68	68	70	73	74	76	83	71
1902	87	84	82	82	84	83	84	83	85	85	86	84	84
1903	84	82	84	81	82	82	82	80	80	80	80	80	81
1904	82	82	84	83	86	83	84	82	80	80	83	84	83
1905	85	84	84	84	85	83	84	82	81	78	80	80	82
1906	80	80	80	81	82	83	82	80	79	78	79	79	80
1907	79	84	85	85	87	87	87	89	92	95	99	97	89
1908	99	99	99	99	101	101	101	100	98	99	99	96	99
1909	98	99	103	102	108	105	103	102	99	99	94	95	101
1910	99	101	100	99	99	98	97	97	95	94	94	95	97
1911	97	95	95	95	96	96	98	98	97	100	103	102	98
1912	103	105	106	108	110	108	106	103	103	103	99	96	104
1913	97	96	96	96	94	96	97	97	98	98	99	101	97
1914	104	102	102	102	102	102	101	105	105	104	105	105	103
1915	113	116	115	113	113	112	111	112	109	103	103	104	110
1916	108	106	106	108	108	106	106	107	110	115	128	130	112
1917	140	146	149	164	175	176	181	196	189	194	199	204	176
1918	212	215	207	202	203	202	201	200	198	199	198	199	203
1919	206	202	202	206	210	211	218	222	209	203	203	208	208
1920	219	223	229	227	232	255	255	244	229	220	201	190	227
1921	190	169	155	158	154	150	147	138	133	121	121	127	147
1922	131	132	138	136	138	135	131	129	120	126	134	136	132
1923	143	144	144	144	139	136	136	136	136	139	141	139	140
1924	137	136	135	133	130	128	134	141	142	143	148	158	139
1925	171	173	167	159	161	164	160	158	150	146	145	144	158
1926	149	147	143	140	140	139	138	140	133	134	136	139	140
1927	142	143	144	144	146	148	151	151	147				

†The weights used in computing the weighted average price of poultry feeds are: meat scrap, 10; standard middlings, 10; bran, 10; cracked corn, 25; corn meal, 10; wheat, 25; oats, 10. For the years 1901-06, inclusive, prices for meat scrap were not available; the index was computed on the basis of the other ingredients, and the prices for those years were computed by assuming that meat scrap prices bore the same relationship to the price in the base years that prices of the other ingredients did.

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BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	191	173	236	281	83
June, 1926	155	176	146	161	177	188	175	234	242	87
July	154	163	143	156	172	190	174	232	249	81
Aug.	152	150	140	147	169	191	173	233	256	79
Sept.	154	148	140	148	171	197	174	236	254	78
Oct.	153	140	134	148	171	196	174	237	246	81
Nov.	151	150	135	151	170	183	175	235	250	85
Dec.	150	145	133	150	169	185	176	238	256	87
Jan., 1927	150	142	130	145	171	194	175	237	252	96
Feb.	149	142	132	145	171	191	174	237	258	95
Mar.	148	142	131	142	172	193	173	240	261	90
Apr.	147	147	130	143	172	200	173	235	264	93
May	147	167	132	146	172	192	174	235	273	94
June	146	172	134	149	172	182	173	235	275	93
July	147	161	137	148	167	186	171	233	280	85
Aug.	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	182	172	232	304	74
Dec.	150	152	143	145	165	191	172	239	314	77
Jan., 1928		148	141	143					318	

(For footnotes see next page.)

WHOLESALE PRICES OF ALL COMMODITIES

The Bureau of Labor Statistics gathers prices every month for 550 articles that are bought and sold in the wholesale markets. These include iron, lumber, copper, flour, wheat, pork, cloth, wool, cotton, automobiles and the like. They are intended to present a picture of wholesale prices of all kinds of commodities. The index number for 1927 was 149, which indicates that last year prices were, on the average, 49 per cent above prices for the 5 years before the war.

Prices have been dropping for 3 years. In 1925, prices were 62 per cent above pre-war; in 1926, 54 per cent above; and in 1927, 49 percent above. Prices dropped 8 points 2 years ago and 5 points this past year.

This index number represents the general commodity price situation. If this index number falls or rises, it is to be expected that farm prices will ultimately be affected.

The amount of gold in the financial systems of the world has an important bearing on the movement of this price level. The quantity of money may express itself in prices of real estate or in the stock market, but ultimately, and sometimes very quickly, is effective in changing commodity prices. The gold supply is, therefore, of importance to agriculture. Since prices are about 50 per cent above pre-war, it means that gold is cheap compared with other things. Gold mining was checked and has not yet reached the pre-war rate. Much of the world's gold is now in the United States, but it seems probable that considerable of this will go to Europe before many years. Some of it is now going.

Increased use of checks and other changes in financial systems enable a given quantity of gold to do more business than formerly. But the quantity of business to be done is rapidly increasing. What will be the net effect on prices of the many forces involved, it is impossible to foretell. Since there are so many forces involved, there is naturally a great difference of opinion. The writers believe that this general price level is likely to decline in the next ten years[1]. If so, the time required to bring agriculture into adjustment will be longer than if the general price level remains stationary.

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[1] Warren, G. F. and Pearson, F. A. The Agricultural Situation, pp. 254-264. 1924.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February, 1927.

[4] Cost of assembling, transporting, processing and distributing food. For methods of calculation, see Farm Economics, No. 50, p. 830, Jan., 1928.

[5] The index numbers for December and June are those published by the United States Bureau of Labor Statistics. Intervening months bear the same ratio to these figures that Snyder's index for the intervening months bears to his figures for June and December. Both index numbers use 1913 as 100, but Snyder's shows that the five year period, 1910-14, also averages 100.

[6] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[7] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune.* The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[8] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

Farm Prices

Prices which farmers receive for farm products are shown in columns 2 and 3 of the first page. The most important farm products are included, weighted in accordance with their importance. For the United States, wheat, corn, hogs, cattle, butter, eggs, wool, cotton, and many other products (as shown on pages 812 to 813) are included. In 1927, some products sold for high prices and some were very low in price. On the average, farm products brought 37 per cent above pre-war prices last year.

In 1927, the products sold by New York farmers averaged 51 per cent above pre-war.

The period of lowest prices for the United States as a whole came in 1921. For New York State, the lowest prices came in 1924. For both New York and the United States, prices in January are above last year's prices.

Prices for the United States are shown on pages 812 and 813. Wheat is cheaper than last year. For most other grains, prices are higher than last year.

Hay is considerably below pre-war prices. It is cheaper than at any previous time in the past 10 years.

Hogs are cheaper than a year ago.

Two of the most striking changes are in prices of beef and cotton. Both have risen very rapidly in the past year.

Prices of Food

Prices for all products include cotton, hay, wool, flax, and other non-foods. The index numbers of prices for food only are shown in column 4 on the front page. At the present time, the two index numbers are about alike. A year ago, the index for food products was 145, whereas the index for all farm products was only 130. This was primarily because cotton was so cheap.

Retail prices for the same foods are shown in column 5.

In December, 1927, the food sold by American farmers brought them 45 per cent above pre-war prices. The same food retailed in American cities at 65 per cent above pre-war retail prices. The farm prices used are those reported by the United States Department of Agriculture, and the retail prices are those reported by the Bureau of Labor Statistics.

Consumers are interested in the outlook for prices of food at retail. For the coming year, prices of pork, lard mutton and lamb will probably be lower. Beef will doubtless rise in price. Poultry, eggs, and dairy products are likely to be as high or higher than present prices. Prices of crops depend on the weather, but present indications are for cheaper potatoes and apples. As a whole, no striking change in the retail price of food is indicated.

Cost of Distributing Food

This is a new index number, and is discussed on pages 830 to 836. In December, the entire cost between the farmer and the consumer was 91 per cent above pre-war.

Cost of Living

The cost of living includes food, fuel, house rent, furniture and the like, at retail prices paid by consumers in cities. In December, 1927, the average cost of these items was 72 per cent above pre-war. The Bureau

(Continued on page 818)

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
Average	64.8	39.9	88.0	61.7	73.3	168.8	2.26	12.4	11.94	112	69.6	87.6
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1927	78.8	44.9	120.5	67.1	88.4	195.9	3.07	15.9	12.00	...	132.3	114.0
1927												
January	64.3	42.6	122.2	58.0	83.6	193.0	2.99	10.6	13.38	...	139.1	97.8
February	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	...	134.1	109.0
March	65.2	43.4	120.9	62.2	86.0	195.1	2.76	12.5	13.48	...	127.0	112.3
April	65.6	43.2	117.2	64.1	85.1	196.1	2.86	12.3	13.26	...	126.6	112.8
May	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	...	146.0	118.9
June	88.9	48.0	130.1	76.3	98.8	204.7	3.23	14.8	13.10	...	191.0	136.0
July	92.4	46.3	127.4	71.4	101.0	198.4	3.35	15.5	11.71	...	183.1	136.4
August	97.7	44.4	123.5	69.0	98.1	203.7	3.45	17.1	9.97	...	146.3	146.7
September	95.3	43.9	119.2	69.5	92.3	197.1	3.26	22.5	10.51	...	107.4	121.9
October	87.6	44.6	113.7	66.8	82.9	191.2	3.08	21.0	10.63	...	97.9	98.1
November	73.7	45.1	111.4	66.8	79.4	184.2	2.95	20.0	10.54	...	95.4	86 5
December	75.1	48.1	113.9	71.5	81.0	185.3	3.01	18.7	10.55	...	94.1	91.9
1928												
January	75.2	49.3	115.2	73.6	82.0	188.4	3.11	18.6	10.60	...	93.6	93.4

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	169
1919	242	174	244	171	214	238	195	239	173	183	200	173
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1927	122	113	137	109	121	116	136	128	101	...	190	130
1927												
January	110	111	140	95	118	119	133	86	114	...	222	125
February	112	110	138	96	119	115	132	94	114	...	204	131
March	108	108	136	99	122	112	127	101	112	...	190	128
April	106	107	132	100	118	113	131	99	110	...	186	121
May	113	110	137	105	121	117	130	110	108	...	210	122
June	131	115	143	118	131	117	140	117	106	...	275	142
July	134	111	146	116	128	119	146	122	98	...	246	149
August	138	111	145	120	126	119	150	137	86	...	165	152
September	130	112	136	118	124	115	142	184	90	...	134	131
October	125	114	130	111	114	114	136	174	91	...	141	115
November	116	117	127	111	111	114	132	165	91	...	159	113
December	129	124	132	118	114	120	131	153	85	...	155	127
1928												
January	129	128	132	120	116	116	138	151	90	...	149	119

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
	bu.	head	lb.	doz.	lb.	head	cwt.	cwt.	cwt.	cwt.	lb.	cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.85	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1927												
January	97	73	20.1	36.9	44.0	66.77	6.45	9.75	6.87	10.65	30.9	10.97
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19
March	100	79	21.3	20.8	43.5	70.18	6.82	10.10	7.41	11.55	31.3	10.89
April	104	80	21.8	20.3	43.4	71.98	7.13	9.90	7.40	11.97	30.4	10.41
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41
June	140	80	20.2	17.8	40.4	74.19	7.08	9.46	7.27	11.95	30.2	8.40
July	144	80	19.9	20.7	40.3	74.15	7.13	9.82	7.16	11.44	30.7	8.58
August	136	80	19.7	23.4	40.3	74.24	7.21	10.37	7.13	11.15	31.2	9.24
September	131	78	19.4	29.4	41.7	76.10	7.42	10.78	7.06	11.14	31.2	9.78
October	135	77	19.7	35.6	43.4	78.62	7.55	11.04	7.05	11.22	30.9	10.16
November	142	75	19.4	41.6	44.5	81.09	8.00	10.67	7.42	11.42	31.1	8.99
December	152	75	19.2	43.3	45.7	82.36	8.32	10.71	7.38	11.39	32.0	8.14
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	101
1915	77	93	103	102	102	118	113	111	115	116	126	94
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1927												
January	100	53	188	125	155	141	128	144	149	184	167	156
February	96	54	194	110	161	143	129	149	157	182	168	157
March	92	55	190	97	168	144	129	146	155	186	167	147
April	91	55	190	119	171	146	130	146	146	185	169	137
May	93	56	184	119	170	147	130	142	155	185	169	130
June	114	55	171	107	172	149	130	140	153	190	173	117
July	141	56	167	124	176	151	134	146	157	188	175	118
August	172	57	164	136	171	150	135	151	161	197	175	124
September	187	56	163	152	169	154	139	153	162	198	180	129
October	196	56	167	160	168	158	142	157	164	204	181	138
November	196	55	170	163	167	162	154	154	174	209	181	129
December	197	55	178	144	161	165	159	155	169	201	185	121
1928												
January	167	55	183	129	159	176	168	160	163	196	179	111

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1927										
January	86	50	131	71	85	3.24	14.00	150	90	115
February	89	51	132	73	86	3.36	14.40	135	87	123
March	87	52	132	76	88	3.24	14.00	120	95	120
April	90	51	126	78	87	3.18	13.50	120	90	125
May	93	54	130	80	91	3.30	13.50	146	100	124
June	106	59	138	88	106	3.54	14.00	200	115	130
July	108	56	138	85	104	3.60	12.60	185	115	130
August	112	55	131	85	100	3.63	11.40	140	120	135
September	113	51	129	82	96	3.66	10.90	125	130	127
October	105	53	126	81	85	3.60	11.00	115	130	127
November	98	53	126	80	82	3.60	10.50	120	145	126
December	100	55	128	84	83	3.60	10.20	120	160	125
1928										
January	96	56	128	82	83	3.90	10.20	120	160	123

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1927										
January	119	111	132	95	120	138	92	234	111	66
February	125	109	132	97	119	144	95	196	100	70
March	123	111	132	99	124	140	90	176	106	68
April	127	104	126	101	119	139	88	174	87	69
May	127	108	130	101	121	140	86	203	88	70
June	141	116	135	110	138	151	86	286	117	72
July	142	110	137	109	124	149	79	268	131	74
August	145	108	136	110	123	148	77	159	174	76
September	140	104	134	108	126	148	72	140	210	72
October	133	113	130	108	115	148	72	167	213	72
November	127	115	130	107	114	149	70	214	223	72
December	133	117	131	112	115	148	67	188	216	71
1928										
January	133	124	129	109	117	167	67	188	198	71

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chick-ens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	43.2	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1927												
January	25.7	48	46.0	51	2.72	92.00	12.40	5.60	5.80	11.50	35	11.60
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10
March	27.0	27	31.3	51	2.65	100.00	12.20	6.00	6.20	12.20	33	11.60
April	27.7	26	30.9	51	2.49	106.00	11.80	6.00	6.30	12.50	33	11.50
May	27.3	26	29.6	50	2.27	109.00	10.90	6.60	6.20	12.90	33	10.70
June	26.6	25	30.1	48	2.18	113.00	10.80	6.60	6.80	12.60	31	10.00
July	24.6	28	34.9	48	2.29	113.00	11.60	6.20	6.00	12.20	33	9.60
August	24.5	32	43.3	47	2.47	114.00	12.10	6.30	5.60	11.70	34	10.00
September	24.8	40	52.3	49	2.80	113.00	12.80	6.60	5.70	11.60	35	10.60
October	23.9	48	64.5	50	2.93	117.00	13.20	6.80	5.60	11.20	35	10.50
November	24.2	59	65.8	50	3.07	121.00	13.00	6.40	5.50	11.40	36	10.20
December	24.5	56	53.5	52	3.04	121.00	12.80	6.80	5.50	11.90	38	9.40
1928												
January	24.8	46	49.1	51		123.00	12.90	6.80	6.00	11.60	37	9.00

Index Numbers (corresponding months, 1910-14 = 100)

	Chick-ens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1927	173	136	126	161	166	196	146	116	140	187	162	140
1927												
January	189	126	116	150	143	171	147	106	139	179	159	156
February	186	125	106	155	149	179	152	111	133	181	164	161
March	190	96	121	165	158	179	146	115	145	189	157	149
April	187	124	137	170	171	188	152	112	138	183	157	147
May	183	137	130	172	191	196	148	117	144	197	165	141
June	175	125	123	171	204	199	137	120	160	190	155	135
July	162	127	128	178	182	200	142	114	144	185	157	128
August	155	128	141	168	164	201	143	112	130	185	170	129
September	159	148	143	163	176	197	147	117	140	188	167	134
October	154	160	143	161	164	209	149	119	138	187	167	133
November	167	169	120	156	163	215	148	117	140	189	171	137
December	178	137	109	153	159	214	146	125	127	193	181	128
1928												
January	182	121	124	150		229	152	129	144	181	168	121

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net pool price. (+8c for fat —3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Standard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29.18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40.33	44.09
1927												
January	37.93	36.90	35.25	41.85	34.13	35.63	35.50	50.60	38.25	75.80	37.93	41.79
February	37.93	38.65	35.00	40.81	35.13	36.63	36.00	51.68	41.50	79.80	38.89	42.55
March	37.09	38.65	33.20	40.52	34.65	36.40	35.70	50.60	42.75	76.80	38.65	41.97
April	37.44	35.54	32.25	41.00	35.50	36.23	35.88	51.90	41.63	76.80	37.86	41.68
May	41.86	36.50	37.40	44.72	35.80	36.10	37.00	52.48	43.78	76.80	39.74	43.71
June	45.63	42.25	40.50	43.40	33.94	36.63	.....	51.93	47.04	74.80	41.86	45.68
July	46.40	39.30	40.25	41.60	33.00	38.50	.....	51.80	46.31	80.30	40.65	46.44
August	48.72	38.58	43.50	41.22	34.00	42.10	.....	52.10	46.00	82.80	41.08	47.35
September	45.15	40.60	44.50	41.95	33.63	37.63	.....	52.30	47.10	81.30	41.31	45.11
October	42.29	41.10	41.38	42.48	33.38	34.50	36.88	52.30	47.63	84.80	40.95	43.91
November	42.47	41.30	39.70	43.66	35.75	36.25	37.20	51.50	49.80	79.80	41.76	43.87
December	43.30	41.98	43.50	46.08	37.81	37.63	38.69	51.80	52.23	79.80	43.31	44.81
1928												
January	42.92	43.60	42.40	46.34	38.70	38.60	39.80	53.30	54.80	76.80	44.31	44.56

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Standard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1927												
January	138	122	127	135	131	136	132	146	116	146	129	134
February	138	126	126	128	134	140	133	149	129	153	131	135
March	139	132	125	128	133	140	132	152	134	147	133	134
April	135	127	122	127	138	141	135	155	128	147	132	132
May	146	133	137	137	142	141	141	159	134	147	139	137
June	160	153	147	131	146	147	...	162	143	143	148	144
July	157	149	146	124	141	149	...	160	140	153	144	144
August	154	131	146	124	137	154	...	151	134	158	137	145
September	138	133	142	130	136	139	...	148	138	154	136	137
October	137	143	140	137	141	134	141	152	149	159	142	136
November	141	145	138	140	149	144	143	151	158	149	146	138
December	150	142	155	148	153	148	146	151	166	149	149	141
1928												
January	156	144	152	149	149	148	148	154	167	148	150	143

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS*

Corresponding months 1910-14 = 100

Year	Vermont	Connecticut	New York	Pennsylvania	Ohio	Indiana	Missouri	Iowa	Georgia	Alabama	Kentucky	Okla.	Texas	So. Dakota	No. Dakota	Utah	Oregon	U. S. farm	U. S. food	Canada
1910		94	101	99	103	103	101	102	110	110	103	104	108		108	107	107	104	103	92
1911		95	97	94	89	88	88	87	103	102	94	98	98		101	94	97	94	92	96
1912		101	101	101	101	100	101	99	86	91	98	96	92		102	98	96	99	101	87
1913		105	97	100	103	103	106	104	98	101	102	101	100		89	100	98	99	105	92
1914	101	103	103	103	105	105	110	108	91	96	108	99	95		98	102	102	101	98	133
1915	100	101	100	102	104	102	108	103	80	85	99	103	93		123	108	106	101	106	114
1916	115	109	116	115	120	116	120	120	117	116	112	126	120		126	125	114	119	120	148
1917	156	145	170	170	181	176	178	181	184	175	159	190	177		199	178	168	180	180	209
1918	196	182	186	193	201	195	200	207	242	230	207	217	220		221	193	191	206	197	211
1919	215	197	206	206	216	205	208	219	238	230	211	222	222	225	237	202	198	215	210	234
1920	232	213	217	217	210	189	188	189	257	244	216	208	217	192	240	216	195	214	209	190
1921	160	159	144	140	130	111	114	104	105	109	167	107	105	100	125	112	119	119	128	137
1922	147	144	134	127	127	112	112	111	147	144	157	121	132	106	111	126	119	124	122	108
1923	168	154	142	138	133	110	112	115	202	189	158	141	167	109	105	140	119	137	122	93
1924	151	142	128	136	134	116	116	122	202	198	154	144	166	120	122	140	121	140	127	133
1925	167	152	147	154	157	143	143	147	170	166	160	152	156	149	150	153	147	154	153	132
1926	177	153	156	160	155	140	141	140	129	131	155	130	126	147	146	140	137	142	153	130
1927	177	152	151	153	147	130	137	140	128	132		125	129	137	135		132	137	144	
1926																				
July	185	151	163	163	156	143	142	144	131	136	152	125	126	157	155	138	134	143	155	
Aug.	173	141	150	152	146	134	133	137	136	140	153	120	131	142	146	135	134	140	147	
Sept.	171	156	148	156	147	138	140	134	135	135	151	130	133	140	132	141	131	140	146	
Oct.	165	143	140	154	151	140	142	142	99	105	154	117	108	145	136	142	137	134	147	
Nov.	172	132	150	164	154	137	141	145	95	100	155	129	104	140	140	145	137	135	150	
Dec.	174	133	145	157	155	135	139	149	89	99	155	116	100	140	140	138	129	133	149	
1927																				
Jan.	168	142	142	151	145	133	136	143	98	102	140	111	102	141	140	136	130	130	144	
Feb.	175	141	142	150	145	134	134	145	103	110	140	105	105	143	138	140	125	132	144	
Mar.	176	141	142	149	144	130	135	136	108	114	137	112	114	144	138	143	125	131	141	
Apr.	182	149	147	150	144	128	135	133	105	116	139	109	111	144	135	139	127	130	140	
May	180	155	167	155	145	123	133	135	115	122	136	119	115	138	141	138	127	132	141	
June	186	169	172	162	147	121	133	132	118	129	133	122	118	135	142	143	134	134	142	
July	179	143	161	159	147	127	131	133	122	130	135	126	125	137	143	146	138	137	145	
Aug.	172	152	148	152	149	131	136	136	130	137	139	127	137	136	139	142	135	139	144	
Sept.	176	164	147	152	149	136	140	140	172	167	137	145	162	137	126	148	134	146	143	
Oct.	174	156	150	155	151	139	145	147	163	156		143	155	133	124	147	136	146	146	
Nov.	175	154	157	157	149	132	141	144	159	152		142	155	132	124	145	135	145	146	
Dec.	176	156	152	151	145	129	141	145	148	147		141	150	131	128		134	143	146	

*Index numbers for Vermont were prepared by H. P. Young, Vermont Agricultural Experiment Station, Burlington, Vermont; those for Connecticut by A. E. Waugh, Connecticut Agricultural College, Storrs, Conn.; those for Pennsylvania by F. P. Weaver, Department of Agricultural Economics, Pennsylvania State College, School of Agriculture, State College, Pa.; those for Ohio by J. I. Falconer, Department of Rural Economics, Ohio State University, Columbus, Ohio; those for Indiana by E. C. Young and O. A. Day, School of Agriculture, Purdue University, Lafayette, Ind.; those for Missouri by D. R. G. Cowan, Department of Rural Life, University of Missouri, Columbia, Mo.; those for Iowa by K. Bjorka, Agricultural Economics and Farm Management section, Iowa State Agricultural College, Ames, Iowa; those for Alabama by J. D. Pope, Alabama Polytechnic Institute, Auburn, Ala.; those for Kentucky by C. U. Jett, City National Bank, Paducah, Ky.; those for Oklahoma by J. O. Ellsworth, Agricultural Economics Department, Oklahoma Agricultural and Mechanical College, Stillwater, Okla.; those for South Dakota by R. E. Post, Department of Farm Economics, South Dakota State College of Agriculture and Mechanic Arts, Brookings, S. D.; those for Utah by W. P. Thomas, Utah Agricultural College, Logan, Utah.

of Labor Statistics publishes this index for June and December. Snyder[2] publishes such an index for each month and makes it possible to fill in the intervening months.

Other items in the cost of living now average higher than food, which is only 65 per cent above pre-war prices. This suggests that food is relatively more abundant than other items in the cost of living.

Weekly Earnings of Factory Workers

The weekly earnings of workers in many factories in New York State are collected by the New York State Department of Labor. This index number is an indication of the earnings of city workers, and has a bearing on the demand for farm products and on the cost of food distribution. It does not take account of unemployment.

In December, 1927, the workers in New York factories received an average of 139 per cent more than before the war.

The average wages of farm labor in the United States in 1926 were 71 per cent above pre-war. This indicates that farm wages for the hired men who still remain on farms are more affected by farm prices than by city wages. Farm wages in New York State are more affected by industrial wages, and averaged 102 per cent above pre-war.

Prices of Industrial Stocks

In December, 70 industrial stocks sold for over three times pre-war prices, the highest ever known. The stock market is affected by the earnings of business concerns, by interest rates, and by the changes which have been occurring in prices of stocks. If prices are rising, many persons buy in order to share in the profits of the rising market. Such buying raises prices still higher. Cheap food, which has distressed agriculture, has been favorable for industry.

Interest Rates

The rate at which commercial paper, which has from four to six months to run, sells is used as a measure of interest rates. When money is seeking investment, these interest rates are low. When money is scarce, they rise. From May to September, these rates declined rapidly. Since then, there has been some increase, but interest rates are still much below the 5-year pre-war average.

Business Conditions

Practically every measure of business activity indicates a material decline in business last year. Most of the forecasts for this year anticipate some increase in business activity, but from present indications, business activity will not equal that of 1926.

Purchasing Power of Farm Products

The purchasing power of farm products is usually expressed by dividing farm prices by wholesale prices of all commodities, or by prices of non-agricultural commodities. Farmers do not sell at wholesale prices. They sell at farm prices which, in a period of depression, are unusually low compared with wholesale prices. They do not buy at wholesale prices, but at retail prices which, in a period of depression, are unusually high compared with wholesale prices. Purchasing power should be expressed by comparing farm prices with prices which the farmer pays. There is no index number of prices of things that farmers buy. Farm machinery retails at about 75 per cent[3] above pre-war prices. Automobiles are cheaper than formerly. Index numbers for cities indicate that clothing retails at about 67 per cent above pre-war, house furnishings, 103 per cent, and food at 65 per cent, above pre-war prices. The average cost of living is 72 per cent above pre-war prices. Probably the average cost of things that farmers buy is about 60 per cent above pre-war. This would make the purchasing power of farm products for 1927, 86 per cent of pre-war (137 ÷ 160).

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[2] Snyder, C. Business Cycles and Business Measurements, p. 290. 1927.

In 1926, farm wages for the United States were 71 per cent above pre-war. Taxes averaged 150 per cent above. The higher tax payments reduce the buying power.

Cattle

From 1912 to 1916, there was a shortage of cattle in the United States. This resulted in high prices and increasing numbers. In the 7 years, 1913 to 1920, the number of cattle increased 22 per cent. In the following 8 years, the decline was even greater than the increase, leaving the number on hand January, 1928, less than at any time in the last 25 years.

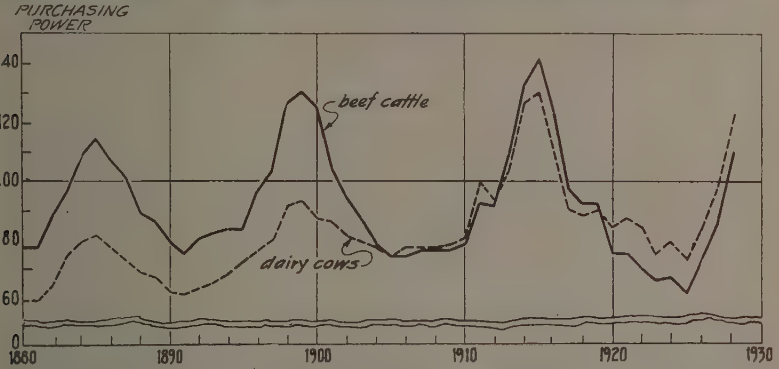

FIGURE 1.—PURCHASING POWER OF PRICE OF BEEF CATTLE AND DAIRY COWS IN THE UNITED STATES, 1880-1928

The major centers of high and low prices of dairy cows and beef cattle occur at the same time. The periods of high prices are about 16 years apart. The last high period was in 1915. Apparently dairy cows and beef cattle will reach a peak about 1930. Due to the unusual shortage, it is also likely that prices will rise higher than in 1885, 1899, or 1915.

Eight years of low prices resulted in the failure of great numbers of cattlemen and in a heavy sale of breeding stock. The reduction in breeding stock increased the surplus on the market, just as the present shortage of cattle will increase the holdings of animals for breeding and thereby accentuate the present shortage. Too many animals cause prices to decline, and cause the marketing of a large number of animals that otherwise would not be marketed. A shortage of animals and high prices result in the withholding from market of heifers and old cows that normally would be marketed. By these means, a very sudden change can occur.

The beef cycle is so regular that the period when any particular stage will be reached can be predicted with considerable accuracy. In August, 1924, the writers predicted that beef cattle would rise in price for about 8 years, reach an average price by 1928 and a peak in prices in 1932.[4] Average prices were reached in the latter part of 1927. From the slope of the curve shown in figure 1, it now appears as if the peak would be reached

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[3] Farm Economics, p. 556.

[4] Warren, G. F. and Pearson, F. A. The Agricultural Situation, p. 168, August, 1924.

TABLE 1.—LIVESTOCK ON FARMS ON JANUARY 1, AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	Horses and colts	Mules and mule colts	Sheep and lambs	Hogs and pigs	Cattle
1910	20,000,000	4,200,000	52,000,000	58,000,000	69,000,000
1911	20,000,000	4,300,000	54,000,000	66,000,000	61,000,000
1912	21,000,000	4,400,000	52,000,000	65,000,000	58,000,000
1913	21,000,000	4,400,000	51,000,000	61,000,000	57,000,000
1914	21,000,000	4,400,000	50,000,000	59,000,000	57,000,000
1915	21,000,000	4,500,000	50,000,000	65,000,000	58,000,000
1916	21,000,000	4,600,000	49,000,000	68,000,000	62,000,000
1917	21,000,000	4,700,000	48,000,000	68,000,000	65,000,000
1918	22,000,000	4,900,000	49,000,000	71,000,000	67,000,000
1919	21,000,000	5,000,000	49,000,000	75,000,000	69,000,000
1920	20,000,000	5,400,000	39,000,000	59,000,000	69,000,000
1921	19,000,000	5,500,000	37,000,000	56,000,000	67,000,000
1922	19,000,000	5,500,000	36,000,000	58,000,000	67,000,000
1923	19,000,000	5,500,000	37,000,000	68,000,000	66,000,000
1924	18,000,000	5,400,000	38,000,000	66,000,000	65,000,000
1925	16,500,000	5,700,000	38,100,000	55,600,000	62,000,000
1926	15,800,000	5,700,000	39,900,000	52,100,000	59,000,000
1927	15,100,000	5,700,000	41,800,000	54,400,000	57,000,000
1928	14,500,000	5,600,000	44,500,000	59,000,000	56,000,000

in 1930. There is every expectation that the purchasing power of cattle will be higher at that time than it has ever been before. Each cycle has been more violent than the preceding, and the liquidation of cattle has been even more severe than that which occurred from 1902 to 1910, or in the nineties.

In each period that beef is high in price, many proposals are made as to how to increase the beef supply. The public may rest assured that when prices are high, the farmers are increasing the beef supply as fast as it can be done, but it takes 3 years to produce a 2-year old steer. If public attention is to be given to the beef industry, it should be given at a time when cattle producers are going bankrupt.

If human nature has not changed, we may expect that there will be a rapid increase in interest in purebred cattle, and that such cattle will reach a peak of prices about 2 years after the peak is reached for ordinary cattle. The price cycles for purebreds are more violent than for grades. The purebred cattle business is a good business if one raises the cattle in advance of the period when they sell well. It is a disastrous business when one buys cattle at the high prices, and raises them to sell when the entire industry is prostrated.[5]

Dairy Cattle

According to estimates of the United States Department of Agriculture for January 1, the decrease in the number of dairy cows has been checked. The number of yearling heifers was lowest two years ago. The number of yearling heifers in the United States has increased 6 per cent in the last 2

TABLE 2.—DAIRY CATTLE ON FARMS ON JANUARY 1, AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	United States			New York		
	Cows and heifers two years old and older	Heifers one to two years old	Number of cows per heifer	Cows and heifers two years old and older	Heifers one to two years old	Number of cows per heifer
1920	21,427,000	4,418,000	4.8	1,499,000	253,000	5.0
1921	21,408,000	4,155,000	5.2	1,477,000	202,000	7.3
1922	21,788,000	4,023,000	5.4	1,462,000	193,000	7.6
1923	22,063,000	4,147,000	5.3	1,449,000	206,000	7.0
1924	22,255,000	4,137,000	5.4	1,422,000	191,000	7.4
1925	22,481,000	4,195,000	5.4	1,383,000	182,000	7.6
1926	22,188,000	3,916,000	5.7	1,362,000	168,000	8.1
1927	21,818,000	4,048,000	5.4	1,318,000	178,000	7.4
1928	21,948,000	4,175,000	5.3	1,330,000	210,000	6.3

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[5] Farm Economics, pp. 443, 651.

years. In New York, there has been a 25 per cent increase. Undoubtedly the number of heifers under one year old has increased more, and probably the number now being raised is sufficient to maintain the industry. Since the number raised was small for about 7 years, the shortage of cows will continue for several years.

The purchasing power of the price of dairy cows is shown in figure 1. This curve follows the beef cycle, and may be expected to reach a peak about 1930. It is very easy to raise too many heifers. But since heifers freshen at about 27 months of age, there are usually three crops of heifers on hand before there is any indication that too many are being raised.

Prices in New York State responded more quickly than prices for the United States. On January first, the price of dairy cows was higher than ever before. It is to be expected that the further rise will be less than for the country as a whole.

The high price of beef is very favorable for the dairymen, because it makes it possible for them to receive considerable income from discarded cows. The price of dairy cows for beef fluctuates much more violently than the price of steers. When the receipts of cattle at Chicago were 20 per cent below normal, heavy steers sold for 10 per cent above normal prices, but fat cows sold for 40 per cent, and canner cows 48 per cent, above normal prices. When beef is abundant and cheap, the poor grades are difficult to sell. When it is scarce, the poorer grades sell readily.

When there is a shortage of cattle, the shortage is usually attributed to almost everything except the true cause—low prices in the previous period. Many persons think the present shortage of cattle is due to the tuberculin test. From 1920 to 1928, the number of cattle in the United States decreased 13 million. In this period, over one million reactors were found in the United States.[6] Even assuming that all these reactors would be alive had they not been tested, prices would have been over 10 times as important as tuberculin testing in reducing the number of animals. Of course, a large part of the animals tested would have been discarded in any event, either because of age or because of disease.

The heavy losses which beef producers suffered, caused many persons to milk their beef cows or to shift from beef to dairy breeds. The better prices for beef will check this tendency to expand dairying in regions that are better adapted to beef production.

Disposition of Calves on New York Farms in 1927

The United States Department of Agriculture received reports from 7,107 farms that had 79,353 cows and heifers 2 years old or older. Probably less than 75,900 of these were cows. The number of calves born was 69,150, or 91 calves per 100 cows.[7]

TABLE 3.—DISPOSITION OF CALVES IN 1927 ON 7107 FARMS IN NEW YORK.
Data furnished by the United States Department of Agriculture

Calves sold	49376	
Less purchases	6519	42,857
Slaughtered		3,026
Killed at birth		3,123
Died		3,082
Heifers on hand		13,238
Bulls on hand		2,131
Apparent omission		1,693
Total calves born		69,150

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[6] United States Department of Agriculture Yearbook of Agriculture, 1926, p. 1089.

[7] Misner found the number of live calves born from 19,892 cows to be 92 per hundred cows.

Some of the calves died at birth and for some the disposition was not reported. If half of the remaining calves were heifers, there were available about 32,000 heifers, of which 13,238 were kept. About 2 out of each 5 heifers were raised. This shows how easy it is to increase the number of cows whenever prices are such as to encourage farmers to raise them.

TABLE 4. TUBERCULOUS ANIMALS CONDEMNED IN NEW YORK

Date	Number
July 1909–June 1910	3,029
July 1910–June 1911	2,993
July 1911–June 1912	4,178
July 1912–June 1913	2,891
July 1913–June 1914	2,139
July 1914–June 1915	1,916
July 1915–June 1916	2,317
July 1916–June 1917	2,208
July 1917–June 1918	1,493
July 1918–June 1919	2,097
July 1919–June 1920	6,842
July 1920–June 1921	20,702
July 1921–June 1922	10,780
July 1922–June 1923	33,686
July 1923–June 1924	39,149
July 1924–June 1925	53,431
July 1925–June 1926	63,963
July 1926–June 1927	67,631
July 1927–Jan. 1, 1928	26,455
Total	347,900

Tuberculin Test in New York

The number of animals condemned for tuberculosis is shown in Table 4. In the past 5 years 257,860 animals have been condemned in New York. These were not all cows. In the same period, about 2,000,000 heifer calves have been killed or sold for slaughter. Farmers could have raised any number of these heifers had prices been such as to encourage them to do so. They raised fewer heifers than at any previous time for which records are available. The present shortage of cattle is primarily due to prices rather than to the tuberculin test. Probably not over one-half of the animals condemned would now be on hand had there been no testing. They would have disappeared in the regular process of discarding old cows and unsatisfactory animals.

It is entirely possible that there are more cows than there would have been had there been no testing. The removal of animals when prices were such that farmers stopped raising heifers had some effect in relieving the situation, and the reduction in heifers raised was less than otherwise would have been the case.

Hogs

For three years, the prices of hogs were high. In much of this period, corn was cheap. Many discussions of the situation were to the effect that the Iowa farmer was selling corn when he should have been selling hogs. This opinion assumed that hogs would have brought the same prices if there had been more of them. As a matter of fact, the more hogs marketed, the less dollars farmers receive.

The result of increasing the supply of hogs is being tried again, for the tenth time since 1860. The answer is the same as it was in the other 9 cases, figure 2. High-priced hogs bring more hogs. More hogs bring less money. In two years, hogs have increased from 52 to 59 million, (table 1)

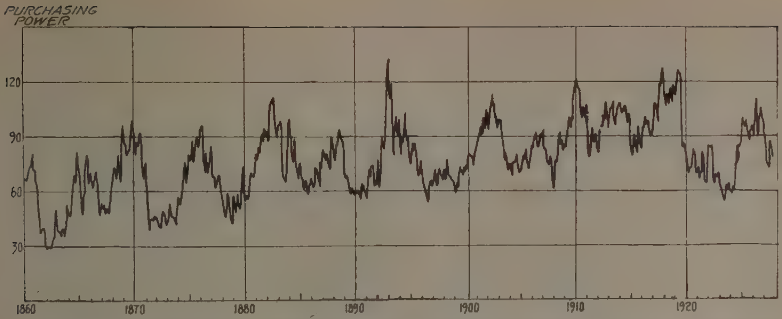

FIGURE 2.—PURCHASING POWER OF THE PRICE OF HEAVY HOGS AT CHICAGO, 1860-1927

The centers of the major cycles of low prices are from 5 to 8 years apart. If this cycle is of usual length, hogs may be expected to decline in purchasing power until about 1929 or 1930; and may be expected to be high about 1932 or 1933.

and United States farm prices have dropped from $12.60 in July, 1926, to $8.14 in December, 1927. A further increase in numbers and a further decline in prices is probable, to be followed by a decrease in numbers and an increase in prices. The next time there is a shortage of hogs, there will probably still be some shortage of cattle.

Horses

The number of mules in the United States is about stationary, but the number of horses has continued to decline. Most of the horses on farms are now very old, and the United States Department of Agriculture states that the number of colts born in 1927 does not indicate any tendency to increase horse production. The increase in the purchasing power of horses has begun, figure 3.

Eggs

The Department of Agriculture reports that the number of laying hens and pullets is about the same as a year ago. A very rapid increase had been taking place but the low prices last spring checked the expansion

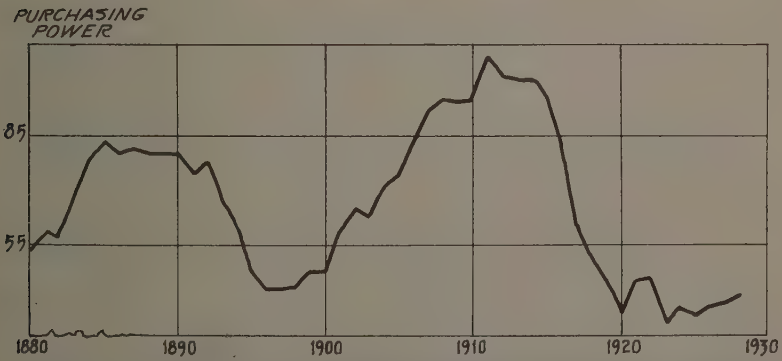

FIGURE 3.—PURCHASING POWER OF THE PRICE OF HORSES IN THE UNITED STATES, 1880-1928

Periods of high prices usually are about 25 years apart. Apparently the price of horses has begun to advance. A sharp rise may be expected.

Most of those who put eggs in storage last spring did well, and will be inclined to buy more freely this year. It seems probable that the price of eggs this spring will not be as low as last year.

Sheep

From 1919 to 1922, the number of sheep in the United States decreased from 49 to 36 million, table 1, p. 820. A gradual increase in numbers began, and in January, 1928, the number had risen to 44,500,000. Prices of mutton have declined somewhat. The increase in number of sheep is likely to continue, and a decline in prices may occur. Those who are not producing sheep should consider the question thoroughly before starting at this time. The number of sheep increased 2,700,000 in the past year. If this increase had been marketed prices would have been lower. Sooner or later the entire net product of a year will be marketed. If those sold do not bring satisfactory prices many more will be marketed.

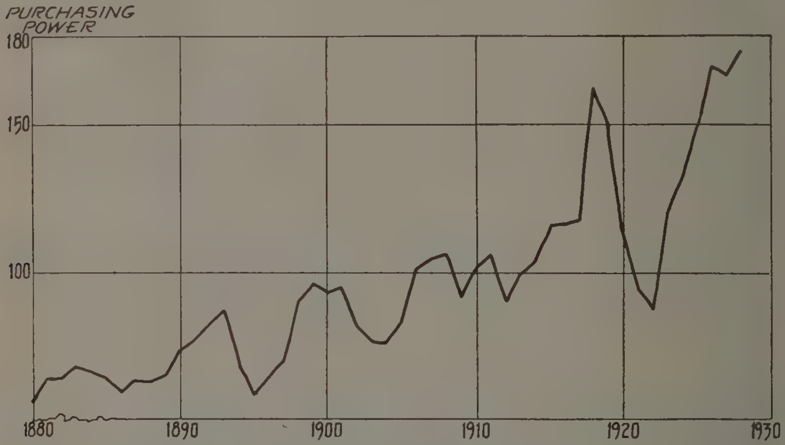

FIGURE 4.—PURCHASING POWER OF THE PRICE OF SHEEP IN THE UNITED STATES, 1880-1928

Sheep have periods of high and low prices, usually lasting about 4 or 5 years. On January 1, 1928, the purchasing power of sheep was the highest ever known, 175. It is not likely that such prices will continue indefinitely.

Potatoes

For several years potatoes were very unprofitable. The acreage was curtailed and profits increased. The harvested acres and December 1 prices have been as follows:

1922	4,307,000 acres	$0.58 per bushel
1923	3,816,000 "	0.78 " "
1924	3,327,000 "	0.63 " "
1925	3,092,000 "	1.87 " "
1926	3,122,000 "	1.41 " "
1927	3,505,000 "	0.96 " "

If this increase in acreage continues, another year of low prices will come in the first year when the weather is favorable.

Apples

From 1910 to 1925, the number of apple trees in the United States declined 36 per cent. The decrease was largely in small orchards and in the poorer orchard regions. Apple production is rapidly moving to the main apple regions. There are still too many apple trees, but the rapid decrease in the number of trees is beginning to have an effect. Yields per acre are so variable in successive years that it is difficult to tell when the worst part of the depression has been passed. Trees on poor apple soils and in regions that are not the best for apple production probably will continue to be cut, and it is to be hoped that on such land no large orchards will again be planted. There is plenty of good apple land in favorable climates. Climatic conditions on the south shore of Lake Ontario are very favorable and much of the soil is well adapted to apples. Other soils in that district are not suited to apple production. The good apple orchards on the good apple soils are now selling at such prices that they appear to be a good investment. Compared with these prices the orchards on poor soil have no value.

Feed

In January, 1928, the average price of a dairy ration was 50 per cent above pre-war. A year ago, it was 29 per cent above. All feeds have advanced in price, but cottonseed-meal is highest compared with pre-war prices. The demand for feed for hogs and for dairy cows is higher than last year. The cotton crop was much less than last year. A further advance in prices is probable.

Farm Prices in Various States

Prices for various states are shown on page 817. The December prices are better than they were a year ago in dairy, cotton, and beef cattle states. They are lower than last year in wheat states and hog states.

In December, prices in Indiana averaged 29 per cent above pre-war; in Iowa 45 per cent; South Dakota, 31 per cent; and North Dakota, 28 per cent above pre-war. Good crops in the western edge of the corn and wheat belts make the situation better than the prices would indicate. The most striking improvement in prices is in the cotton belt.

G. F. Warren and F. A. Pearson

THE OUTLOOK FOR THE REMAINDER OF THE 1927 LATE POTATO CROP

For the second consecutive year since 1925, the acreage and production of white potatoes in the United States have shown an increase over the year immediately preceding.[1] The estimated acreage in 1925 was 3,092,000; in 1926, 3,122,000 and 3,505,000 in 1927. The estimated production[2] was approximately 323 million bushels in 1925; 354 million in 1926, and 402 million in 1927. Such a circumstance has usually been accompanied in the past by lower prices and this year is no exception. The average price paid New York producers of potatoes during November, 1925 was $1.984 per bushel;[3] during November, 1926 was $1.413 per bushel; and during November, 1927, was $.954 per bushel.[4] An increase of approximately 24.4 per cent in production during these three years resulted in a decrease of approximately 52 per cent in price per bushel received by the producer.

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[1] United States Department of Agriculture, Yearbook 1926, p. 933.

[2] United States Department of Agriculture, Crops and Markets, Dec. 1927. Vol. 4, No. 12, page 460.

[3] Farm Economics, Vol. I, No. 35, June 1926, p. 460.

[4] Farm Economics, Vol. I, No. 49, December 1927, pp. 786 and 788.

Discussion of the early and mid-season potato crop of 1927 is largely academic since these potatoes are already disposed of. New York potato growers are concerned primarily with the actual production of the 19 surplus white-potato producing states of the north, and the prospective 1928 potato production by the early producing states in the south, principally Florida, Texas, North and South Carolina and Virginia.

Of the 19 important late-potato-producing states, 4 report a decrease in production as compared with last year, and 15 an increase (Table 1). With the exception of Pennsylvania and Vermont, however, practically all of the increased production is in the west central and western states. There was an estimated net decrease in production of 10.7 million bushels in the eastern and east central states, whereas there was a net increase of approximately 37.1 million bushels in the west central and western states. The decreased production in the eastern and east central states was due to a decreased yield per acre (14.6 per cent) and despite an average increase of 12.1 per cent in acreage planted. The increased production in the west central and western states was due in every instance, except Nevada, to both an average increased acreage (18.2 per cent) and an increased yield per acre of approximately 14.9 per cent.

TABLE 1. COMPARISONS OF ESTIMATED PRODUCTION OF LATE WHITE POTATOES IN 19 COMPETING STATES, 1922-27

(Figures in bushels, 000 omitted)

State	Average annual crop 1922-1926*	Final estimate 1926*	Final estimate 1927*	Increase or decrease compared with 1926 crop
EASTERN STATES				
Maine	34,572	36,830	32,092	− 4,738
Vermont	3,295	3,100	3,255	+ 155
New York	34,273	29,016	28,620	− 396
Pennsylvania	25,076	22,176	26,400	+ 4,224
	97,216	91,122	90,367	− 755
EAST CENTRAL STATES				
Michigan	32,346	29,880	23,120	− 6,760
Wisconsin	29,803	27,140	23,920	− 3,220
	62,149	57,020	47,040	− 9,980
WEST CENTRAL STATES				
Minnesota	37,178	29,800	33,128	+ 3,328
North Dakota	11,654	7,520	11,526	+ 4,006
South Dakota	5,866	3,300	7,590	+ 4,290
Nebraska	7,986	5,329	8,904	+ 3,575
	62,684	45,949	61,148	+15,199
WESTERN STATES				
Colorado	14,142	11,760	16,046	+ 4,286
Wyoming	1,670	1,456	2,414	+ 958
Montana	3,876	2,975	5,400	+ 2,425
Idaho	13,720	16,198	24,380	+ 8,182
Utah	2,722	2,465	2,970	+ 505
Nevada	729	700	780	+ 80
California	7,778	6,923	7,956	+ 1,033
Oregon	4,365	4,500	6,240	+ 1,740
Washington	8,907	10,720	13,430	+ 2,710
	57,909	57,697	79,616	+21,919
TOTAL 19 STATES	279,958	251,788	278,171	+26,383
TOTAL UNITED STATES	393,776	354,328	402,149	+47,821
Per cent of 5 year average	100.0	89.98	102.13	—
Per capita production**	3.49	3.01	3.37	—

*United States Department of Agriculture, Yearbooks 1924, p. 706; 1926, p. 934, and Crops and Markets, December 1927, Vol. 4, No. 12, page 460.

**Assuming that an average population of 112,682,000 consumed the crops grown in 1922-26, inclusive; a population of 117,569,000 as of Jan. 1, 1927; and 119,198,000 as of Jan. 1, 1928.

Carload Movements of Potatoes

During the years 1922-1926, New York State produced an average of approximately 34.2 million bushels of potatoes, only 28.8 per cent of which was marketed in carload lots. Approximately 39.5 per cent of the production of the 19 states moved in carload lots during the same period. Based on the average percentage of total production shipped annually in carload lots, an estimate has been made (table 2, column 6) of the probable carload shipments from the 1927 crop of each of the important states. Through the courtesy of the Tabb Potato Service, there has also been included in this table (column 7) an estimate, based on data supplied by a large number of potato dealers located in these states, of the probable number of carloads which will be shipped from the 1927 crop. It will be noted that the totals of these two estimates are within 1,107 carloads of being identical. If these estimates are reasonably accurate, there were from 85,000 to 86,500 carloads still to be shipped after January 1, 1928. The shipments after that date last year were 79,804 carloads.

From the data available, it appears that although there are apparently 26,383,000 more bushels of potatoes available, there had been shipped only 902 carloads, or 541,200 bushels more than last year. It is likely that at least 6,000 or 6,500 carloads, or approximately 3-½ million bushels more will be offered in carloads lots this year than last year. It is also likely that these estimates may be too conservative, since the increased 1927 production was almost entirely in the sparsely settled states, so that a relatively large proportion of the increased crop will be available for shipment if the price warrants it. It is probable that the price per bushel in the west will be depressed more than in the east since the great surplus is in the west.

The Federal report on holdings of potatoes by growers and dealers as of January 1, 1928, probably will not be published until about the middle of February. It should be of interest to growers and dealers who have potatoes in storage.

Competition of Other Fruits and Vegetables with Potatoes

The United States Department of Agriculture reported receipts of 203,561 carloads of 77 kinds of fruits and vegetables at New York City in 1925.[5] It is likely that all of these fruits and vegetables compete with or displace potatoes to some degree.

Probably the most important competitor of the late white potato crop is the sweet potato crop. The 1927 sweet potato crop is one of the largest on record, and is estimated to be 13.5 per cent or 11,225,000 bushels larger than in 1926. If carlot shipments of sweet potatoes continue to increase in the same ratio to production as during the past three seasons, approximately 30,000 carloads of sweet potatoes will come to the market this year compared with 25,738 carloads in 1926.[6]

The Canadian white potato crop for 1927 is estimated at 79,878,000 bushels compared with 81,136,000 in 1926.[7] Canada shipped 6,205 carloads of its 1926 crop into the United States and was also a heavy shipper to Cuba and the West Indies. Up to January 1, 1928, Canada had shipped only 642 carloads into the United States compared with 1,926 carloads to the same date last year.[8] Effective December 1, 1927, Cuba is reported to

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[5] United States Department of Agriculture, Market News Service, Receipts of Fruits and Vegetables in New York City, January 28, 1926.

[6] United States Department of Agriculture, Crops & Markets, Vol. 4, No. 12, pages 454-477.

[7] Courtesy of Tabb Potato Service, Chicago, Ill. Bulletin 81, Dec. 22, 1927.

[8] United States Department of Agriculture, Weekly Summary of Carlot Shipments, January 3, 1928.

TABLE 2. CARLOAD SHIPMENTS OF LATE WHITE POTATOES FROM 19 COMPETING STATES, 1922-1926, AND ESTIMATED SHIPMENTS FROM THE 1927 CROP

(One carload is assumed to equal 600 bushels or 36,000 pounds)

State	Average annual carlot shipments 1922-1926*	Carloads shipped 1926-27*	Carloads shipped this season to Dec. 31, 1927*	Carloads shipped last season to Jan. 1, 1927*	Estimate of total carloads to be shipped from 1927 crop**	Potato dealer's estimate of total carloads to be shipped from 1927 crop†
EASTERN STATES						
Maine	36,750	42,607	18,276	19,485	34,114	35,000
Vermont	183	247	108	168	180	200
New York	16,444	12,573	8,540	8,778	13,733	12,000
Pennsylvania	4,488	2,628	2,115	1,438	4,726	3,500
	57,865	58,055	29,039	29,869	52,753	50,700
EAST CENTRAL STATES						
Michigan	17,698	16,455	2,539	8,618	12,650	8,500
Wisconsin	17,811	18,156	6,416	7,988	14,296	15,000
	35,509	34,611	8,955	16,606	26,946	23,500
WEST CENTRAL STATES						
Minnesota	28,502	25,048	19,531	13,083	25,398	32,000
N. Dakota	6,885	4,816	5,022	3,143	6,810	6,600
S. Dakota	1,998	518	2,153	465	2,586	2,500
Nebraska	4,177	3,228	3,353	2,204	4,657	4,750
	41,562	33,610	30,059	18,895	39,451	45,850
WESTERN STATES						
Colorado	14,269	14,200	10,148	9,159	16,190	17,000
Wyoming	827	763	1,314	681	1,195	1,600
Montana	997	886	332	422	1,389	1,300
Idaho	15,874	17,329	9,633	10,370	28,208	23,000
Utah	1,204	1,078	664	1,038	1,314	1,000
Nevada	679	780	396	498	726	900
California	6,663	7,133	5,970	6,202	6,816	7,500
Oregon	1,695	2,597	901	1,489	2,423	3,000
Washington	7,326	9,736	4,465	5,745	11,046	12,000
	49,534	54,502	33,823	35,604	69,307	67,300
TOTAL 19 STATES	184,470	180,778	101,876	100,974	188,457	187,350
TOTAL UNITED STATES	241,490	236,762	169,308	156,541	– – –	– – –

*United States Department of Agriculture Yearbook, 1926, p. 939; & Weekly Summary of Carlot Shipments, January 3, 1928.

**Estimate by writer based on average percentage of production shipped in carload lots by each state during five-year period 1922-1926, inclusive.

†Courtesy of Tabb Potato Service, Chicago, Ill. December 1927.

have increased the tariff on white potatoes to $.583 per bushel. Potatoes from the United States are accorded a preferential rate 20 per cent less than this figure, making the tariff on United States potatoes approximately $.446 per bushel.[9] This increased tariff may divert Canadian potatoes to the United States which would otherwise have gone to Cuba, but the Cuban market should be somewhat better for potatoes from the United States.

Reports from Florida indicate an increase of approximately 7 per cent in early potato acreage as compared with 1927. The Federal report on plantings and intentions to plant in the ten important early potato states is usually available around February 15.

The 1927 crops of onions, Danish cabbage, and grain used for human consumption are larger than those of 1926. Estimates of commercial acreages of early cabbage and spinach for 1928 indicate increases over 1927.

The rice, dry bean, and apple crops of 1927 are smaller than the 1926 crops. A decrease of 31.2 per cent in early lettuce acreage is indicated for 1928.

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[9] United States Department of Agriculture, Weekly Market Review of Fruits and Vegetables, November 8, 1927.

CROP YIELDS PER ACRE

Crop yields per acre in the United States, New York State, and all states east of the Mississippi river, from 1866 to 1927, are given in table 1.

The crop yields are expressed as weighted index numbers of yields of the 8 major food and feed crops, corn, oats, wheat, rye, barley, buckwheat, potatoes and hay.

Crop yields per acre for the entire United States are confusing because of the addition of arid land and because of the boll weevil.

As weather is a very important factor influencing crop yields, the index numbers were grouped in 10-year periods in order to present more clearly the trend in yields. From 1880 to 1890, there was a striking decline in yields per acre. This was followed by a rapid increase in yields up to 1920. Since that time, the increase seems to have been checked. For the entire country, yields in 1921-27 averaged about 2 per cent more than in 1916-20. Since considerable low-yielding land has been thrown

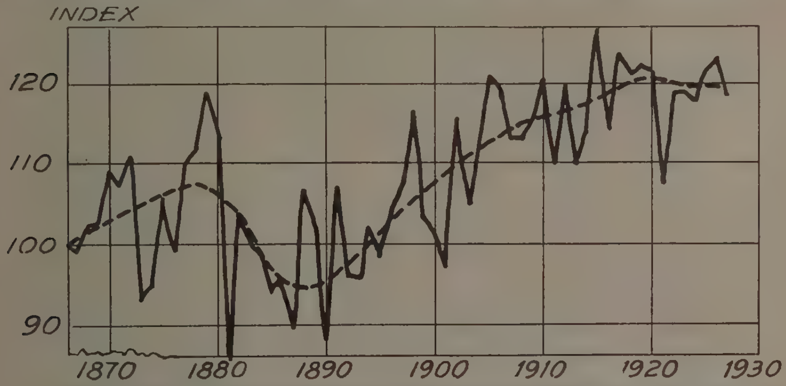

FIGURE 4.—CROP YIELDS PER ACRE EAST OF THE MISSISSIPPI RIVER, 1866-1927
Yields declined during the agricultural depression of the eighties and rose rapidly thereafter. Apparently the rapid increase has been stopped.

TABLE 1.—CROP YIELDS PER ACRE
1866 = 100
Corn, wheat, oats, barley, rye, buckwheat, potatoes and hay

Year	United States	States east of Mississippi River	New York	Year	United States	States east of Mississippi River	New York	Year	United States	State east of Mississippi River	New York
1866	100	100	100	1887	91	89	90	1908	112	113	101
1867	100	99	95	1888	101	107	91	1909	115	115	96
1868	104	102	87	1889	108	102	97	1910	113	121	112
1869	108	102	113	1890	89	88	92	1911	97	110	91
1870	109	109	100	1891	112	107	94	1912	126	120	104
1871	109	107	107	1892	99	96	92	1913	108	110	96
1872	112	111	103	1893	97	96	95	1914	118	114	107
1873	101	93	89	1894	93	102	90	1915	132	127	113
1874	94	95	104	1895	105	98	80	1916	110	114	117
1875	109	106	93	1896	109	104	82	1917	116	124	115
1876	100	99	92	1897	107	107	107	1918	115	121	109
1877	112	110	102	1898	116	117	108	1919	116	122	115
1878	115	112	108	1899	108	103	91	1920	125	122	112
1879	116	118	98	1900	105	101	79	1921	112	108	94
1880	110	114	93	1901	96	97	97	1922	119	119	114
1881	86	86	89	1902	119	116	108	1923	119	119	112
1882	104	104	94	1903	111	105	102	1924	120	117	119
1883	100	100	93	1904	114	111	105	1925	115	121	114
1884	107	99	93	1905	123	121	106	1926	116	123	110
1885	99	94	88	1906	123	120	107	1927	124	118	121
1886	96	96	90	1907	109	113	100				

out of use, the increase on the good land is less than this amount. The yields in states east of the Mississippi river seem to verify this conclusion.

The crop yields for New York[1], as reported by the census, are shown in table 3.

TABLE 2.—CROP YIELDS PER ACRE
1866 = 100

Period	United States	States east of Mississippi River	New York
1866-1875	105	102	99
1876-1885	105	104	95
1886-1895	99	98	91
1896-1905	111	108	99
1906-1915	115	116	103
1916-1920	116	121	114
1921-1927	118	118	112

TABLE 3.—CENSUS REPORTS OF CROP YIELDS PER ACRE IN NEW YORK

Crop	1879	1889	1899	1909	1919	1924
Corn, bushels	33.0	30.6	30.4	35.4	44.0	36.5
Wheat "	15.7	18.0	18.7	23.0	19.7	18.6
Oats, "	29.8	27.4	30.7	26.7	23.0	33.2
Barley, "	21.8	23.5	26.4	24.0	19.6	30.1
Rye, "	10.8	12.9	13.7	15.4	13.1	15.1
Buckwheat, bushels	15.3	16.7	13.2	19.9	17.9	19.7
Dry edible beans, bushels			10.5	14.5	15.3	
Hay, tons	1.13	1.27	1.08	1.08	1.26	1.14
Potatoes, bushels	98.8	68.9	96.2	123.2	104.6	135.9
Tobacco, pounds	1,313	1,080	1,234	1,301	1,284	1,136
Hops, pounds	553.6	547.1	629.5	721.7	706.9	
Teasels, thousands				110.1	206.9	
Strawberries, quarts			1,894	2,499	1,761	
Raspberries & loganberries, quarts			1,420	1,334	1,115	
Blackberries & dewberries, quarts			1,537	1,286	910	
Cranberries, quarts			3,080	1,182	574	
Currants, quarts			1,767	1,557	1,244	

G. F. WARREN AND F. A. PEARSON

COST OF DISTRIBUTING FOOD

Beef

In 1917, beef sold at retail for an average of 23.11 cents per pound. Farmers received 8.14 cents per pound for beef cattle. There was a difference of 14.97 cents between the farmer and the consumer. In 1921, beef retailed at 25.59 cents per pound, but farmers received only 5.53 cents. Retail prices rose but farm prices declined, tables 1 and 2.

The comparison can be better made on a basis of live weight, since the farmer sells on this basis. The retail receipts from a 1,000-pound live animal are shown in table 3. In 1917, this amounted to $143.70. In 1921, it amounted to $159.20. In 1917, it cost $62.30 to distribute the beef, and in 1921 it cost $103.90, so that farmers received $81.40 in the first case and $55.30 in the second, tables 1 and 3 and figure 2. Some persons believe that the lower farm price in 1921 was due to over-production, but retail prices were higher than in 1917.

1917		1921	
Retail value of 1000-pound steer	$143.70	Retail value of 1000-pound steer	$159.20
Distributing costs	62.30	Distributing costs	103.90
Farm price	$ 81.40	Farm price	$ 55.30

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[1] Warren, G. F. Crop Yields and Prices and Our Future Food Supply. Cornell University Agricultural Experiment Station Bulletin, No. 341, pp. 189 and 193. February, 1914.

The spread between the retail price and the farm price is shown in table 4. Since the war, it has cost about $100, or twice as much as before the war, to get the products from a 1,000-pound live steer from the farmer to the consumer. Index numbers of the cost of distributing beef are shown in table 5.

The cost of distribution is double pre-war, and has been surprisingly uniform for the last 8 years. It has very little relationship to the price of beef. It is primarily determined by freight rates, city wages and the like. There has been some increase in efficiency so that distribution costs have not risen as much as wages.

In December, 1927, beef was retailing at 29.1 cents per pound. It would have to retail at 34 cents in order to have the farmers receive their usual share of the retail price.

TABLE 1.—AVERAGE PRICE PAID TO FARMERS IN THE UNITED STATES PER 1000 POUNDS FOR BEEF CATTLE AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	$	$	$	$	$	$	$	$	$	$	$	$	$
1910-14	50.40	51.10	52.90	55.00	55.00	54.40	53.30	53.60	53.50	53.20	52.10	52.20	53.10
1910	47.10	46.40	48.70	53.10	52.30	52.00	48.40	46.40	46.50	46.40	44.80	44.50	48.10
1911	45.80	45.70	46.60	46.70	45.90	44.30	42.80	43.90	44.30	43.20	43.60	43.70	44.70
1912	44.60	46.10	47.50	51.50	53.60	52.30	51.70	53.70	53.50	53.60	52.20	53.30	51.10
1913	54.00	55.50	58.80	60.80	60.10	60.20	59.80	59.10	59.20	60.50	59.90	59.60	59.00
1914	60.40	61.60	62.80	62.90	63.30	63.20	63.80	64.70	63.80	62.30	60.20	60.10	62.40
1915	59.90	59.30	59.20	59.60	61.30	62.00	60.70	61.80	60.60	60.40	58.50	57.50	60.10
1916	58.50	59.90	63.70	66.60	67.30	69.10	67.80	65.10	65.50	63.70	64.40	65.60	64.80
1917	68.60	73.60	79.10	85.70	87.00	86.50	83.00	81.70	84.00	83.50	82.10	82.40	81.40
1918	83.30	85.50	88.50	97.30	103.80	104.00	100.70	97.10	96.30	93.30	91.40	92.80	94.50
1919	96.50	100.20	103.40	108.10	108.40	102.00	99.60	98.20	90.20	86.50	86.50	86.30	97.20
1920	89.90	89.80	90.80	92.00	89.70	93.20	89.30	85.60	82.90	77.70	71.50	63.60	84.70
1921	63.20	60.20	63.60	60.80	59.80	56.50	54.00	53.90	49.80	48.10	46.90	46.20	55.30
1922	47.50	50.70	54.60	55.30	57.00	58.40	57.60	55.10	54.40	54.80	52.90	52.80	54.30
1923	55.10	55.50	56.20	57.80	57.70	58.20	57.20	56.00	57.00	54.80	52.30	52.60	55.90
1924	53.80	54.70	56.30	58.20	59.40	57.90	56.50	56.70	55.30	55.20	54.30	53.50	56.00
1925	56.30	56.90	61.80	65.50	64.80	64.60	65.50	65.80	62.70	63.10	61.40	61.80	62.50
1926	63.10	64.20	66.50	66.60	65.70	65.60	64.60	62.90	64.80	64.30	63.20	64.20	64.60
1927	64.50	66.00	68.20	71.30	71.70	70.80	71.30	72.10	74.20	75.50	80.00	83.20	72.40

TABLE 2.—RETAIL VALUE OF BEEF IN CENTS PER POUND IN THE UNITED STATES*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct	Nov.	Dec.	Year
1910-14	15.68	15.74	15.93	16.24	16.53	16.70	16.82	17.02	16.75	16.61	16.42	16.34	16.41
1910	14.28	14.27	14.35	14.42	14.52	14.59	14.60	14.64	14.27	14.35	14.23	14.22	14.38
1911	14.38	14.38	14.47	14.50	14.62	14.70	14.70	14.74	14.39	14.47	14.35	14.32	14.50
1912	14.69	14.77	14.96	15.68	16.72	17.02	17.15	17.32	17.06	16.84	16.53	16.47	16.35
1913	16.82	16.92	17.55	18.18	18.18	18.35	18.57	18.59	18.57	18.43	18.31	18.22	18.08
1914	18.24	18.36	18.34	18.41	18.61	18.83	19.06	19.80	19.47	18.98	18.68	18.49	18.76
1915	18.24	18.01	17.80	17.97	18.36	18.57	18.81	18.74	18.65	18.44	18.17	17.93	18.32
1916	18.18	18.23	18.70	19.20	19.78	20.50	20.28	20.05	20.03	19.56	19.27	19.22	19.42
1917	19.72	20.79	21.64	23.29	23.79	24.19	24.16	24.07	24.08	24.32	23.47	23.71	23.11
1918	24.42	25.02	25.49	27.78	30.42	32.14	31.80	31.10	31.27	30.73	30.35	30.20	29.24
1919	30.95	30.91	31.40	32.44	32.87	31.46	31.22	30.10	28.84	28.06	27.64	27.58	30.30
1920	28.72	28.75	28.84	30.44	30.38	31.82	33.00	31.97	31.67	30.47	29.66	27.18	30.12
1921	27.76	26.06	26.55	26.77	26.56	26.12	25.67	25.68	25.08	24.27	23.27	23.15	25.59
1922	23.05	22.95	23.39	23.66	24.22	24.58	24.89	24.67	24.52	24.40	23.87	23.63	24.00
1923	23.85	23.76	23.85	24.09	24.45	25.10	25.64	25.61	25.80	25.33	24.70	24.61	24.75
1924	24.96	24.74	24.88	25.20	25.71	25.68	25.53	25.57	25.39	25.05	24.68	24.41	25.15
1925	24.76	24.64	25.30	25.90	26.21	26.16	26.86	26.67	26.45	26.39	25.92	25.95	25.94
1926	26.40	26.25	26.38	26.62	26.83	27.05	27.05	26.85	27.03	26.94	26.70	26.70	26.74
1927	26.76	26.78	26.87	27.39	27.65	27.66	28.22	28.28	28.39	28.50	28.61	29.10	27.85

*Retail prices are those reported by the Bureau of Labor Statistics. The weights are as follows: sirloin steak, 32; round steak, 32; rib roast, 31; chuck, 31; and plate beef, 60. The Bureau of Labor Statistics gives plate beef a weight of 23. Every edible part of a "medium common" steer slaughtered by C. D. Scutt, of the Animal Husbandry Department of Cornell University, was sold at retail. The inferior parts weighed 1.6 times the weight of the plate, and sold for exactly the same average price as the plate. For this reason, the plate beef is given a weight of 60 instead of 23. Weighted in this way and with the prices received for the products listed, the average value was 23.9 cents per pound. The actual sale price of the steer was 23.5 cents.

TABLE 3.—AVERAGE RETAIL VALUE OF PRODUCTS FROM A 1000-POUND LIVE ANIMAL*

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1910-1914	$ 97.50	$ 97.90	$ 99.10	$101.00	$102.80	$103.90	$104.60	$105.90	$104.20	$103.30	$102.10	$101.60	$102.10
1910	88.80	88.80	89.30	89.70	90.30	90.70	90.80	91.10	88.80	89.30	88.50	88.40	89.40
1911	89.40	89.40	90.00	90.20	90.90	91.40	91.40	91.70	89.50	90.00	89.30	89.10	90.20
1912	91.40	91.90	93.10	97.50	104.00	105.90	106.70	107.70	106.10	104.70	102.80	102.40	101.70
1913	104.60	105.20	109.20	113.10	113.10	114.10	115.50	115.60	115.50	114.60	113.90	113.30	112.50
1914	113.50	114.20	114.10	114.50	115.80	117.10	118.60	123.20	121.10	118.10	116.20	115.00	116.70
1915	113.50	112.00	110.70	111.80	114.20	115.50	117.00	116.60	116.00	114.70	113.00	111.50	114.00
1916	113.10	113.40	116.30	119.40	123.00	127.50	126.10	124.70	124.60	121.70	119.90	119.50	120.80
1917	122.70	129.30	134.60	144.90	148.00	150.50	150.30	149.70	149.80	150.60	146.00	147.50	143.70
1918	151.90	155.60	158.50	172.80	189.20	199.90	197.80	193.40	194.50	191.10	188.80	187.80	181.90
1919	192.50	192.30	195.30	201.80	204.50	195.70	194.20	187.20	179.40	174.50	171.90	171.50	188.50
1920	178.60	178.80	179.40	189.30	189.00	197.90	205.30	198 90	197.00	189.50	184.50	169.10	187.30
1921	172.70	162.10	165.10	166.50	165.20	162.50	159.70	159.70	156.00	151.00	144.70	144.00	159.20
1922	143.40	142.70	145.50	147.20	150.60	152.90	154.80	153.40	152.50	151.80	148.50	147.00	149.30
1923	148.30	147.80	148.30	149.80	152.10	156.10	159.50	159.30	160.50	157.60	153.60	153.10	153.90
1924	155.30	153.90	154.80	156.70	159.90	159.70	158.80	159.00	157.90	155.80	153.50	151.80	156.40
1925	154.00	153.30	157.40	161.10	163.00	162.70	167.10	165.90	164.50	164.10	161.20	161.40	161.30
1926	164.20	163.30	164.10	165.60	166.90	168.30	168.30	167.00	168.10	167.60	166.10	166.10	166.30
1927	166.40	166.60	167.10	170.40	172.00	172.00	175.50	175.90	176.60	177.30	178.00	181.00	173.20

*The average value per pound of the edible portion of the beef is given in table 2. The edible portion represents 54.3 per cent of the live steer, and the beef represents 87.3 per cent of the value. The average price of meat, times 0.543, divided by 0.873, therefore, gives the average value per pound of live weight. Clemen, R. A. By-Products of the Packing Industry, pp. 9-10, 1927. Results are expressed per 1,000 pounds as this seems easier to explain

TABLE 4.—COST OF DISTRIBUTING PRODUCTS FROM A 1000-POUND LIVE ANIMAL
Table 3 minus Table 1

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1910-1914	$47.10	$46.80	$46.20	$46.00	$47.80	$49.50	$51.30	$52.30	$50.70	$50.10	$50.00	$49.40	$49.00
1910	41.70	42.40	40.60	36.60	38.00	38.70	42.40	44.70	42.30	42.90	43.70	43.90	41.30
1911	43.60	43.70	43.40	43.50	45.00	47.10	48.60	47.80	45.20	46.80	45.70	45.40	45.50
1912	46.80	45.80	45.60	46.00	50.40	53.60	55.00	54.00	52.60	51.10	50.60	49.10	50.60
1913	50.60	49.70	50.40	52.30	53.00	53.90	55.70	56.50	56.30	54.10	54.00	53.70	53.50
1914	53.10	52.60	51.30	51.60	52.50	53.90	54.80	58.50	57.30	55.80	56.00	54.90	54.30
1915	53.60	52.70	51.50	52.20	52.90	53.50	56.30	54.80	55.40	54.30	54.50	54.00	53.90
1916	54.60	53.50	52.60	52.80	55.70	58.40	58.30	59.60	59.10	58.00	55.50	53.90	56.00
1917	54.10	55.70	55.50	59.20	61.00	64.00	67.30	68.00	65.80	67.10	63.90	65.10	62.30
1918	68.60	70.10	70.00	75.50	85.40	95.90	97.10	96.30	98.20	97.80	97.40	95.00	87.40
1919	96.00	92.10	91.90	93.70	96.10	93.70	94.60	89.00	89.20	88.00	85.40	85.20	91.30
1920	88.70	89.00	88.60	97.30	99.30	104.70	116.00	113.30	114.10	111.80	113.00	105.50	102.60
1921	109.50	101.90	101.50	105.70	105.40	106.00	105.70	105.80	106.20	102.90	97.80	97.80	103.90
1922	95.90	92.00	90.90	91.90	93.60	94.50	97.20	98.30	98.10	97.00	95.60	94.20	95.00
1923	93.20	92.30	92.10	92.00	94.40	97.90	102.30	103.30	103.50	102.80	101.30	100.50	98.00
1924	101.50	99.20	98.50	98.50	100.50	101.80	102.30	102.30	102.60	100.60	99.20	98.30	100.40
1925	97.70	96.40	95.60	95.60	98.20	98.10	101.60	100.10	101.80	101.00	99.80	99.60	98.80
1926	101.10	99.10	97.60	99.00	101.20	102.70	103.70	104.10	103.30	103.30	102.90	101.90	101.70
1927	101.90	100.60	98.90	99.10	100.30	101.20	104.20	103.80	102.40	101.80	98.00	97.80	100.80

A portion of costs of distribution is represented by buildings, equipment, etc., charges for which have not risen as rapidly as wages.

There seems to be no tendency for distributing charges to decline.

Cost of Distributing Other Farm Products

Similar calculations were made for the distribution of other farm products.

For the 5 years before the war the retail prices of pork averaged 18 cents per pound. In 1927, they averaged 33 cents.

From 1910-14, farmers received $7.25 and in 1927 they received $9.68. The corresponding values of the pork from 100 pounds of live hogs were

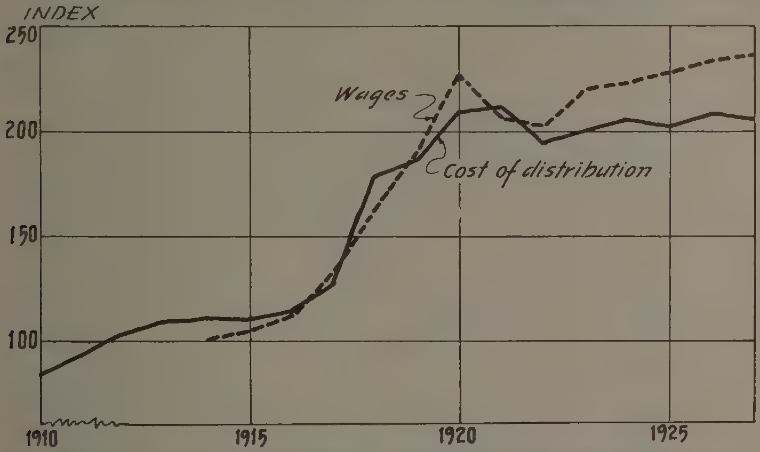

FIGURE 1.—COST OF DISTRIBUTING BEEF AND EARNINGS OF NEW YORK FACTORY WORKERS

Costs of food distribution follow wages, but because of some increase in efficiency have risen less rapidly than wages

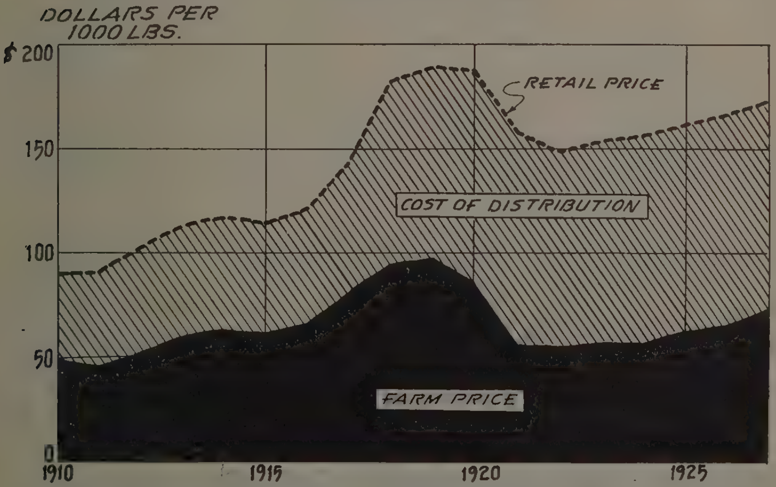

FIGURE 2.—RETAIL PRICE, COST OF DISTRIBUTION AND FARM PRICES OF 1000 POUNDS OF BEEF CATTLE

Costs of distribution have been absorbing an increasing proportion of the amount that the consumer pays for beef

TABLF 5.—INDEX NUMBERS OF THE COST OF DISTRIBUTING BEEF IN THE UNITED STATES

1910-14 = 100

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1910	89	91	88	80	79	78	83	85	83	86	87	89	84
1911	93	93	94	95	94	95	95	91	89	93	91	92	93
1912	99	98	99	100	105	108	107	103	104	102	101	99	103
1913	107	106	109	114	111	109	109	108	111	108	108	109	109
1914	113	112	111	112	110	109	107	112	113	111	112	111	111
1915	114	113	111	113	111	108	110	105	109	108	109	109	110
1916	116	114	114	115	117	118	114	114	117	116	111	109	114
1917	115	119	120	129	128	129	131	130	130	134	128	132	127
1918	146	150	152	164	179	194	189	184	194	195	195	192	178
1919	204	197	199	204	201	189	184	170	176	176	171	172	186
1920	188	190	192	212	208	212	226	217	225	223	226	214	209
1921	232	218	220	230	221	214	206	202	209	205	196	198	212
1922	204	197	197	200	196	191	189	188	193	194	191	191	194
1923	198	197	199	200	197	198	199	198	204	205	203	203	200
1924	215	212	213	214	210	206	199	196	202	201	198	199	205
1925	207	206	207	208	205	198	198	191	201	202	200	202	202
1926	215	212	211	215	212	207	202	199	204	206	206	206	208
1927	216	215	214	215	210	204	203	198	202	203	196	198	206

$14.16 and $25.32. The differences, or cost of distribution, were $6.91 and $15.64. The cost of distribution increased 126 per cent.

For the five years before the war, milk retailed at 9 cents per quart in New York City, and farmers received 3.4 cents for it, or distribution costs were 5.6 cents. For December 1927, the retail price was 16 cents. Farmers received 6.6 cents. Distribution cost 9.4 cents, or 92 per cent above the pre-war amount.

No United States farm prices of butter comparable with the United States retail prices, are available. Dr. G. A. Pond of the University of Minnesota, furnished prices paid to farmers for butter fat at a typical creamery in Minnesota. Comparing these prices with the United States retail price of creamery extra butter, showed a spread of 8 cents during the 5 years 1910-14, and 11.7 cents in 1927, or an increase of 46 per cent. This figure may be too low because of closer weighing at retail now.[1]

For 5 years before the war farmers received 11.5 cents per pound for chickens. Live hens retailed at 20.5, a difference of 9 cents. In 1927, farmers received 20.3 cents and retail prices averaged 36.9, a difference of 16.6 cents. The spread between farm and retail prices increased from 9 to 16.6 cents, or 84 per cent.

Comparable farm and retail prices of eggs are not available for the United States. New York farm prices and New York City retail prices of strictly fresh nearby eggs appear to be comparable for the 9 months, April to December. These indicate that the cost of distribution is 83 per cent above pre-war.

A comparison of the price of wheat with the retail prices of flour and wheat middlings indicate that the spread between the farmers prices of a bushel of wheat and the retail prices of its products has increased 84 per cent. If sold as bread the increased spread is 64 per cent.

Farm and retail prices of potatoes for the United States are comparable except for July and August. Omitting these two months, the average farm prices before the war were 1.12 cents per pound. Retail prices averaged 1.89, a difference of 0.77 cents. In 1927, farm prices averaged 2.1 cents per pound and retail prices, 3.8 cents, a difference of 1.7, or an increase of 121 per cent.

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[1] In the earlier period a larger percentage of the butter was weighed out of tubs by the retailer. Estimates by 3 retailers indicate an average of loss of 2.3 pounds per tub, or 4 per cent. At the present time losses are less because much of the butter is sold in cartons. The spread at the earlier date is therefore probably less than 8 cents. If it were as low as 7 cents, the present index of the cost of dstribution would be 167 instead of 146.

Retail prices are available for leg of lamb only. If the total retail value varies in the same way as leg of lamb, the cost of distribution in 1927 would be 129 per cent above pre-war.[11]

Index numbers of the cost of distribution are shown in table 6. The weighted average cost of distribution of 9 products is 91 per cent above pre-war. Costs of distribution have risen in the past three years. Apparently, if farmers are to receive higher prices, it must be brought about by creating a scarcity, so that retail prices will rise high enough to pay distribution costs that are twice as high as before the war, and yet leave the farmer a sustaining price.

If farmers received nothing for the products listed in table 6, retail prices would be practically at the pre-war level, because the increases in the distributing charges for 1927 almost equal the amount paid to farmers before the war.

A comparison of farm and retail prices and costs of distribution is also shown in figure 3. When prices were rising, costs of distribution rose less rapidly than retail prices. Farmers received the benefit of the difference. When prices fell, costs of distribution remained high. Farmers lost the difference. If farmers received their pre-war share of the retail price, the agricultural depression would be over.

TABLE 6.—INDEX NUMBERS OF THE COST OF DISTRIBUTION OF FARM PRODUCTS
1910-14 = 100

Year	Beef	Pork[1]	Milk[2]	Butter[3]	Hens[4]	Eggs[5]	Wheat flour[6]	Wheat bread[7]	Corn meal[8]	Potatoes[9]	Weighted average[10]
1910	84	86	96	98	91	103	97		97	104	92
1911	93	99	98	103	97	93	97		97	121	98
1912	103	100	100	111	100	86	104		101	113	102
1913	109	107	102	94	106	113	106	97	103	91	104
1914	111	110	100	95	107	107	101	109	103	77	105
1915	110	112	98	94	99	97	112	114	109	82	105
1916	114	115	96	91	114	99	117	119	111	123	110
1917	127	136	111	91	132	112	169	134	178	169	129
1918	178	181	134	120	188	126	150	145	223	140	159
1919	186	214	152	144	192	149	170	148	196	175	174
1920	209	237	163	180	213	170	210	177	214	294	202
1921	212	223	175	160	209	157	195	175	189	152	190
1922	194	201	179	143	188	149	175	155	155	160	175
1923	200	205	171	156	179	160	165	158	145	164	177
1924	205	203	168	163	179	167	158	155	167	173	180
1925	202	213	170	159	181	172	174	153	197	206	185
1926	208	222	171	159	188	175	185	158	209	248	192
1927	206	226	171	146	184	183	184	164	206	221	191

[1] The Bureau of Labor quotes pork chops, bacon, ham and lard at retail prices. A "good-to-choice medium" butcher hog was killed by C. D. Scutt, of the Animal Husbandry Department of Cornell University, and all the edible parts sold at retail. The weights used by the Bureau of Labor Statistics are: pork chops, 36; bacon, 17; ham, 22; and lard, 34. Using these weights and the prices received, the retail price averaged 30.52 cents. The parts that are not quoted include some of the poorer cuts, so that the actual price received was 27.14 cents, or 89 per cent of the price for the quoted parts. The average prices per pound of pork are, therefore, 89 per cent of the Bureau of Labor weighted average. Pork represents 96.6 per cent of the total value of the hog. The price per pound is, therefore, divided by 0.966 Clemen, R. A. By-Products of the Packing Industry, p. 9, 1927.

[2] Based on the New York City retail prices and on prices paid to farmers, Farm Economics, pp. 665.

[3] Based on prices paid for butter fat in Southern Minnesota as furnished by G. A. Pond of the Minnesota Agricultural Experiment Station, and on the United States retail prices of creamery extra butter. An overrun of 23.1 per cent was used. Black, J. D. and Guthrie, E. S. Economic Aspects of Creamery Organization. Minnesota Agricultural Experiment Station, Technical Bulletin 26, p. 7, 1924.

[4] Based on United States retail prices of live hens and the United States farm price of chickens.

[5] Comparable prices for the United States are not available, hence New York farm prices of eggs and New York City retail prices of strictly fresh nearby eggs were used. January and February omitted.

[6] Wheat is assumed to produce 70 pounds of flour and 30 pounds of by-products per 100 pounds. United States retail price of flour and New York price of standard middlings were used, Farm Economics, p. 805.

[7] It is assumed that 100 pounds of wheat produces 30 pounds of by-products and 70 pounds of flour which will make 94 pounds of bread.

[8] Based on United States retail price of corn-meal and United States farm price of corn.

[9] Based on United States retail price of potatoes and United States farm price.

[10] Weighted as follows: beef, 21; pork, 18; milk, 10; butter, 11; hens, 4; eggs, 9; wheat flour, 5; wheat bread, 13; corn-meal, 5; and potatoes, 4.

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[11] Based on dressed weights and comparative prices furnished by C. D. Scutt of the Department of Animal Husbandry of Cornell University.

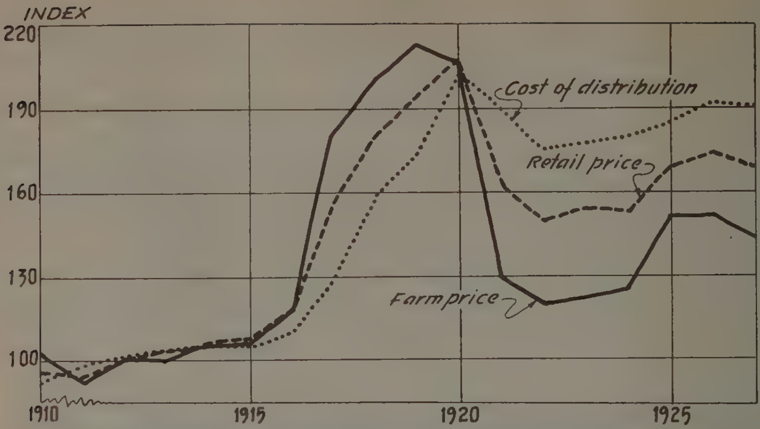

FIGURE 3.—INDEX NUMBERS OF THE UNITED STATES FARM PRICE OF FOODS, COST OF DISTRIBUTION AND THE UNITED STATES RETAIL PRICE

From 1916 to 1920, costs of distribution were low and farm prices were relatively high. Since 1920, costs of distribution have been high and farm prices have been low

The failure of distributing charges to decline is the primary cause of the agricultural depression. A depression always occurs with falling prices, because farm prices must fall disproportionally to retail prices, and because agriculture cannot quickly reduce production and force consumers to pay the extra costs.

The Ratio of Farm Prices to Retail Prices

For the five years before the war, farmers received from 38 to 78 per cent of the retail price for the various products listed in table 7. In 1917, prices had risen strikingly, but distribution charges had not risen proportionately. Farmers received more than their pre-war share of the consumer's dollar. In 1927, prices had fallen, but distributing charges remained high, and the farmers received less than their pre-war share of the consumer's dollar. The average percentage received by farmers in 1927 was 45.

TABLE 7.—PERCENTAGE OF RETAIL PRICES RECEIVED BY FARMERS

	1910-14	1917	1927
Beef	52	57	42
Pork	51	59	38
Milk	38	48	37
Butter	78	85	79
Hens	56	58	55
Eggs	70	76	64
Wheat flour	52	59	44
Wheat bread	23*	36	21
Corn-meal	39	43	27
Potatoes	60	74	58
Weighted average	51	59	45

*1913-14.

G. F. Warren and F. A. Pearson

THE FARM HORSE SITUATION

In the Spring of 1927, a questionnaire was sent to 6000 Farm Bureau Committemen in New York State, asking for data concerning their horses. Fifty per cent of these committeemen returned usable figures. This article gives a portion of the data obtained from this study. A more complete report is being published in bulletin form.

Out of a total of 9696 horses, there were only 42 colts under one year old; 46 yearlings; 85 two-year-olds and 94 three-year-olds. The number in each age group increased up to 12 years, in which age group there were 891 horses, or 9.2 per cent of all the horses on these farms. The average age of all horses was between 12 and 13 years.

Seventy-five per cent of the horses were purchased and 25 per cent were raised on farms where they now are.

The relation of age to the value of purchased and raised mares and geldings is shown in table 2. Raised animals are worth more than purchased animals. The average value of purchased mares in 1927 was $115, and the average value of purchased geldings was $109, and of raised geldings $121. These small differences may be due to the fact that a sentimen-

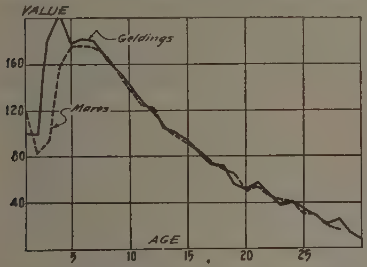

FIGURE 1. RELATION OF AGE TO THE VALUE OF MARES AND GELDINGS.

Two, three and four-year-old mares are worth more than geldings of the same age. Thereafter, there is little difference in their value.

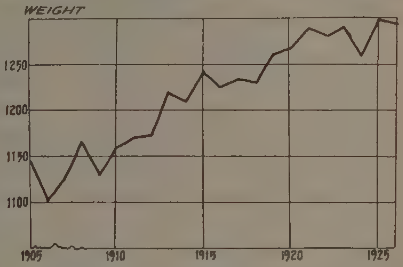

FIGURE 2. PRESENT WEIGHT OF MARES AND GELDINGS NOW ON FARMS, PURCHASED FROM 1901 to 1926.

There has been a decided increase in the average weight of purchased animals.

TABLE 1. AGES OF 9696 HORSES ON 2961 NEW YORK FARMS—1927

Age in 1927 Years	Number in group	Percentage in group	Cumulative percentage distribution
Under 1	42	0.4	0.4
1	46	0.5	0.9
2	85	0.9	1.8
3	94	1.0	2.8
4	131	1.4	4.2
5	210	2.2	6.4
6	334	3.4	9.8
7	485	5.0	14.8
8	658	6.8	21.6
9	680	7.0	28.6
10	785	8.1	36.7
11	611	6.3	43.0
12	891	9.2	52.2
13	582	6.0	58.2
14	676	7.0	65.2
15	591	6.1	71.3
16	595	6.1	77.4
17	440	4.5	81.9
18	434	4.5	86.4
19	243	2.5	88.9
20	395	4.1	93.0
21	178	1.8	94.8
22	163	1.7	96.5
23	95	1.0	97.5
24	93	1.0	98.5
25	52	0.5	99.0
26	51	0.5	99.5
27	24	0.2	99.7
28	18	0.2	99.9
29	5	0.05	99.95
30	4	0.04	99.99
31	1	0.01	100.00
32	2	0.02	100.00
33	1	0.01	100.00
34	1	0.01	100.00
Total	9696	100	

TABLE 2. RELATION OF AGE TO VALUE OF PURCHASED AND RAISED ANIMALS

Age in 1927, Years	Purchased		Raised	
	Mares	Geldings	Mares	Geldings
Under 1	—	—	$ 61	$ 45*
1	$100*	$117*	77	90*
2	99*	83*	115	103
3	182*	94*	142	146
4	203	159	171	167
5	178	175	191	176
6	182	176	182	171
7	180	174	173	162
8	164	167	160	177
9	155	153	169	149
10	140	139	148	152
11	129	125	132	143
12	118	122	143	133
13	105	105	107	125
14	100	98	102	108
15	93	91	94	101
16	83	85	91	86
17	73	75	91	85
18	72	69	74	74
19	56	65	86	70
20	51	50	49	57
21	57	54	61	48
22	47	46	44*	47
23	38	42	30*	37*
24	40	41	24*	29*
25	34*	30	17*	35*
26	28*	30	23*	44*
27	21*	20*	—	—
28	25*	17*	50*	17*
29	13*	—	8*	—
30	8*	50*	—	—
31	—	50*	—	—
32	8*	—	—	—
33				
34				
35				
Average	115	109	124	121

*Less than 20 animals.

TABLE 3. RELATION OF AGE TO WEIGHT OF MARES AND GELDINGS, 1927

Age in 1927, Years	Purchased		Raised	
	Average weight		Average weight	
	Mares	Geldings	Mares	Geldings
Under 1	—	—	442	231*
1	975*	883*	655	743*
2	1071	1091*	988	990*
3	1158*	1014*	1200	1206
4	1296	1206	1240	1250
5	1291	1291	1180	1271
6	1299	1337	1233	1265
7	1300	1327	1284	1296
8	1291	1339	1207	1321
9	1280	1309	1269	1256
10	1288	1327	1249	1265
11	1262	1316	1226	1300
12	1283	1301	1215	1259
13	1210	1289	1206	1262
14	1253	1281	1210	1223
15	1229	1266	1167	1212
16	1229	1247	1169	1199
17	1179	1242	1146	1191
18	1203	1247	1179	1223
19	1169	1212	1139	1171
20	1168	1173	1099	1150
21	1085	1515	1103	1056
22	1084	1204	1093*	1187
23	1160	1120	1021*	1096*
24	1153	1194	979*	1183*
25	1154*	968	1089*	1170*
26	1115*	1176	1013*	1111*
27	1031*	1210*	900*	—
28	870*	1106*	1100*	1133*
29	1075*	—	1017*	—
30	1100*	1100*	—	—
31	—	1050*	—	—
32	1050*	—	—	—
33	—	—	—	1100*
34	—	1200*	—	—
35				
Average	1241	1279	1162	1212

*Less than 20 animals

tal value is attached to raised animals, but is more likely due to differences in ages, the raised animals being slightly younger than the purchased ones.

The maximum value for mares is between the ages of three and seven years; and for geldings between five and seven. The value decreases rapidly from this high point and reaches a minimum of $8 per head at 30 years of age.

Purchased mares attained their highest value, $203, at 4 years of age. Mares at 7 years of age were worth $180.00. The average value at 7 years was 88.7 per cent of the value at 4 years of age. On the average, horses from 9 to 10 years of age are worth about 75 per cent of their maximum value; at 13 to 15 years of age, 50 per cent, and at 20 years of age, 20 per cent.

TABLE 4. PERCENTAGE DISTRIBUTION OF PURCHASED ANIMALS ON FARMS IN 1927, ACCORDING TO WEIGHT AND TIME OF PURCHASE

5-year period	Less than 1000 pounds	1000–1199 pounds	1200–1399 pounds	Over 1400 pounds	Total
	Per cent	Per cent	Per cent	Per cent	Per cent
1907–11	4	43	39	14	100
1912–16	2	27	49	22	100
1917–21	2	19	47	32	100
1922–26	3	15	43	39	100

There is a decided tendency for mares to reach their maximum value about two years younger than geldings. At two years of age, mares and geldings are worth approximately the same percentage of their maximum value. At three years of age, mares are worth 90 per cent of their maximum value. This may be due to the fact that three-year-old mares can be bred altho most of them are not worked. The greatest increase in the value of geldings comes between three and four years, when they are broken for work. After 6 years of age, geldings are constantly worth more than mares.

Purchased horses were heavier than raised horses, table 3. The average purchased mare weighed 1241 pounds and raised mare 1162 pounds. The average weight of purchased geldings was 1279 pounds and raised geldings 1212 pounds. Purchased mares exceeded raised mares by 79 pounds and purchased geldings exceeded raised geldings by 67 pounds.

TABLE 5. PRESENT VALUE OF 3992 PURCHASED GELDINGS ACCORDING TO WEIGHT AND THE YEAR OF PURCHASE

Year	Under 800 pounds	800–999 pounds	1000–1199 pounds	1200–1399 pounds	Over 1400 pounds	Average
1903			$38*			$ 38*
1904				$ 25*		25*
1905			33*	15*		24*
1906		$50*	34*	27*	50*	36*
1907	$ 75*		39*	42*	38*	39*
1908			32*	83*	44*	47*
1909		38*	45*	70*		54
1910			44*	57*	60*	53
1911		10*	60	49	54*	53
1912		18*	62	63	79*	63
1913		10*	62	81	105	80
1914		50*	52	77	106	74
1915		75*	63	98	94	88
1916		40*	79	84	105	86
1917		63*	66	90	116	90
1918		53*	81	92	116	93
1919		49*	86	104	127	106
1920		51*	82	107	134	111
1921		71*	90	113	144	119
1922	38*	54*	92	127	132	120
1923		55*	81	125	151	128
1924		64*	85	127	154	127
1925	100*	66*	83	120	159	129
1926	98*	73*	85	129	164	135
1927		84*	91	106	140	113
Average	68	58	76	107	138	109

*Less than 20 animals.

The average five-year-old mare weighed 1291 pounds; ten-year-old, 1288 pounds; fifteen-year-old, 1229 pounds; and 20-year-old 1168 pounds. The younger animals are noticeably heavier than the older ones.

The greatest number of purchased horses are in the 1200-1399 pound class.

It is quite evident that farmers are now purchasing heavier horses than formerly. In the five years, 1922-26, 39 per cent of the animals weighed over 1400 pounds. In the 5 years, 1912-16, only 22 per cent of the animals were as heavy, table 4.

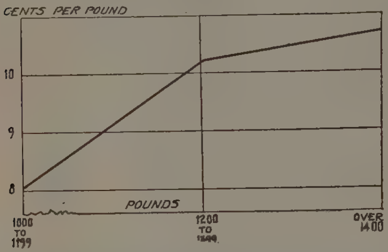

FIGURE 3. COST PER POUND OF MARES AND GELDINGS PURCHASED DURING THE THREE YEARS, 1924-26.

Large horses are worth more per pound than light ones.

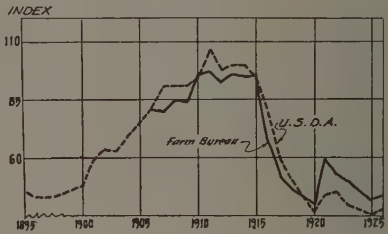

FIGURE 4. PURCHASING POWER OF THE NEW YORK STATE FARM PRICE OF HORSES, AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE AND THE NEW YORK FARM BUREAU COMMITTEEMEN.

The prices reported in 1927 by the Committeemen correspond closely to the prices reported each year by crop reporters of the United States Department of Agriculture.

The average purchased gelding weighing over 1400 pounds was worth $138, and the average gelding weighing 1000-1199 pounds was worth only $76. Horses do not depreciate uniformly with advancing age. Light horses depreciate less than heavy horses.

The value per pound varied widely with the age of the animal. Mares at 3 and 4 years of age were worth 16 cents a pound; thereafter they decreased to 1 cent a pound, at 30 years of age.

At 5 years of age, mares were worth 14 cents a pound, and geldings 13 cents. There is no great change from 4 to 7 years of age. At 8 years of age both mares and geldings decreased 1 cent per pound in value.

TABLE 6. AVERAGE COST OF 7370 HORSES AT TIME OF PURCHASE

Year	Cost
1905	$128
1906	138
1907	145
1908	148
1909	158
1910	187
1911	175
1912	176
1913	173
1914	179
1915	188
1916	167
1917	175
1918	173
1919	174
1920	169
1921	170
1922	154
1923	148
1924	133
1925	129
1926	130
1927	107

The average cost of 7370 purchased horses at the time of purchase is shown in table 6. These prices closely approximate the prices as reported by the United States Department of Agriculture.

Large horses are worth more per head and per pound than small ones. During 1924 to 1926, horses weighing from 1000 to 1199 pounds were worth 8.1 cents per pound; 1200 to 1399 pounds, 10.2 cents; and over 1400 pounds, 10.7 cents.

C. E. LADD

TRANSFER OF LAND IN NEW YORK

According to reports of the United States Department of Agriculture, about 6 per cent of the farms in New York State changed hands in the year ending March 15, 1926. Over one-fourth of these changes were due to foreclosure, delinquent taxes, or other financial failures.

The number changing hands by voluntary sale was very low, amounting to a little more than 3 per cent. There were fewer foreclosures in New York State than in most states. In some states the transfers due to foreclosures, delinquent taxes, etc., amounted to more than 6 per cent of the farms.

PER CENT OF FARMS CHANGING OWNERSHIP IN NEW YORK, YEAR ENDING MARCH 15, 1926*

	Per cent
Inheritance and gift	0.7
Delinquent taxes	0.4
Foreclosure, bankruptcy, default of contract	1.1
Voluntary sales and contracts	3.3
Changes not classified	0.3
Total transfers	5.8

* Wiecking, E. H. The farm real estate situation 1926. U. S. Dept. Agr. Dept. Cir. 377: p. 12. Feb., 1927.

Voluntary sales in New York were higher than for most of the states, except those that are more influenced by city conditions, as Florida, New Jersey and Rhode Island.

G. F. WARREN and F. A. PEARSON

USES OF LAND IN NEW YORK STATE

Nearly two-thirds of the land in New York State is in farms.

Of the farm land, nearly one-half is in harvested crops other than pasture and woods, or over one-fourth of the State is in crops, table 1.

Pasture occupies nearly one-fourth of the area of the State, but part of this is woodland pasture.

One-eighth of the State is in farm woodland, but over half of these woods are pastured.

TABLE 1. APPROXIMATE ACREAGES OF LAND IN NEW YORK STATE

	Acres
Crops harvested in 1924	8,290,335
Land on which crops failed in 1924	91,041
Crop-land idle or fallow in 1924 (Nearly all idle, very little fallow in this state.)	706,287
Pasture, plowable	2,080,544
Pasture, woodland	2,025,249
Pasture, other	3,297,710
Woodland not pastured	1,780,380
Other land in farms	998,380
Total land in farms	19,269,926
Land in farms in 1880, but now abandoned or taken for city, village or other uses	4,510,828
All other land, occupied before 1880 by cities, or mountains, etc.	6,717,806
Total land area of State	30,498,560

Amount of Abandoned Land

According to the United States Census, the area of land in farms in New York State in 1880 was 23,780,754 acres, whereas the amount of land in farms in 1925 was 19,269,926 acres. Over 4,500,000 acres disappeared from farms in forty-five years. Some of this land has been taken for State forests, for cities, villages, parks, reservoirs, and the like. Probably more than a million acres have been so used. 836,000 acres of the land that disappeared from farms is below Ulster County. Most of this land is in city or suburban use.

The abandoned farms are usually somewhat more than one-fourth in woods. Probably there are between two and three million acres of idle land in addition to the 700,000 acres of idle land on occupied farms. In the abandoned farm areas, there are always many occupied farms. The conditions that compel complete abandonment of many farms have resulted in many idle acres on the occupied farms.

The rate of abandonment per year is increasing. Even in the period of rising prices, a large amount of land was abandoned.

Idle land that is a part of an occupied farm is not included in these figures. In the abandoned farm areas, many farms are still occupied but little used.

TABLE 2. LAND IN FARMS IN NEW YORK STATE, AS REPORTED BY THE CENSUS

Year	Number of farms	Acres	Abandoned acres	Rate of abandonment per year
1850	170,621	19,119,084		
1860	196,990	20,974,958		
1870	216,253	22,190,810		
1880	241,058	23,780,754		
1890	226,223	21,961,562		
1900	226,720	22,648,109		
1910	215,597	22,030,367	1,750,387	
1920	193,195	20,632,803	1,397,564	140,000
1925	188,754	19,269,926	1,362,877	270,000
Total abandoned			4,510,828	
Per cent abandoned			19	

More Production from Fewer Acres

In forty-five years, the land in farms declined 19 per cent, but the acres of crops declined only 9 per cent. Yields per acre increased 17 per cent, so that in spite of the declining acreage and the millions of acres of abandoned land, the total food production of the State increased 7 per cent. The highest production ever attained in the State was during the war period. Abandonment was rapid even in this period. Low prices have resulted in some decline in production since the war, table 3. The increased production is greater than the figures indicate because there are changes in the character of the crops. Vegetables, which have been substituted for grain, produce more food per acre. Corn is now put in the silo so that an acre produces about twice as much feed as formerly.

TABLE 3. ACRES OF CROPS OTHER THAN FRUIT, YIELDS PER ACRE, AND TOTAL CROP PRODUCTION IN NEW YORK STATE*

Year	Acres of crops	Yield per acre 1875-1883 = 100	Total production 1875-1883 = 100
1854	7,562,324		
1864	7,594,360		
1874	8,691,357	104	104
1879	8,698,831	100	100
1889	8,889,349	96	98
1899	9,016,235	99	103
1909	8,365,335	106	102
1919	8,304,817	116	111
1924	7,925,000	117	107

*Crop yields are index numbers of yields of corn, oats, wheat, barley, rye, buckwheat, hay and potatoes. In each case, the average is for 5 years in which the census year is the middle year, except for 1924, which is for 7 years. See page 829.

The acres of some minor crops for 1924 are not yet published. Their estimated area of 106,000 acres is included.

In the forty-five years, the total milk production of the State increased 21 per cent, table 4.

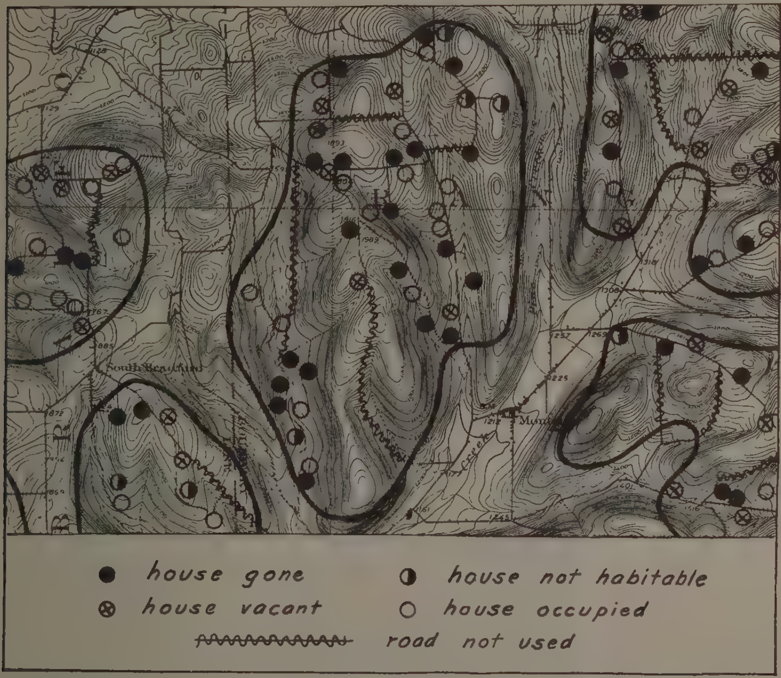

FIGURE 1.—TYPICAL ABANDONED FARM AREAS. THE CENTRAL AREA CONTAINS ABOUT 6000 ACRES.

Approximate boundaries of the abandoned areas are indicated. These areas are interspersed with valleys.

TABLE 4. MILK PRODUCTION IN NEW YORK STATE

Year	Number of dairy cows	Milk sold or manufactured pounds	Milk sold or manufactured per cow, pounds
1845	999 490		
1850	931,324		
1855	1,068,427	2,827,076,000	2,646
1860	1,123,634		
1865	1,147,251	3,091,396,000	2,695
1870	1,350,661	4,074,061,000	3 016
1875	1,339.816	4,043.131,000	3,018
1880	1,437,855	4,876,590 000	3,392
1890	1,440,230		
1900	1,423,152	5,766 744,000	4,052
1910	1,305,278	6,162,022.000	4.721
1920	1 419,877	5,847,775,000	4,118
1925	1,324,572	5,895,526,000	4,451

*Pounds of butter made on farms was multiplied by 25, cheese by 10, and cream sold by 8.

In the last four census periods, heifers 2 years old or older that have not freshened are included as cows. The number here given is the estimated number of animals 27 months old or older to correspond with the earlier census reports.

Census figures are all somewhat too low but are probably comparable for different years. Farm Management Studies indicate that sales per cow in New York average 5 095 pounds, and total production averages 5,500 pounds. Farms producing Grade A and Grade B milk averaged 6,209 pounds per cow. Production in Denmark averages 6,300. Farm Economics, pp. 292 and 293.

Future Production

Pearl[1] estimates that the population of the United States will increase about 65 per cent in the next 100 years. If this increase occurs, New York farmers can abandon more land and yet contribute their share of 65 per cent increase in food production.

In mosts parts of the State, tile drainage, lime and fertilizers have been used enough to show what they will do, but thus far have been used on only a very small percentage of the acreage.

The nation-wide agricultural depression is so interfering with the provision for future production that another period of "high-cost-of-living" seems inevitable. Such a period will probably begin in the next decade. A shortage of cattle is already beginning. Such a period is likely to mislead the public as to the necessity for the use of inferior lands. When a period of high food costs occurs, it will be due primarily to the cessation of improvements of good land. The remedy will not be reoccupation of inferior lands, but larger yields on the lands already in use. This was demonstrated by the continued abandonment of land from 1900 to 1920, altho there was a very rapid increase in the total food production in the State.

It is easier to increase food production on good land than on poor land. By either procedure, a number of years will be required, but the time will be shorter if all the effort is spent on good land. Doubtless there will always be cycles of too rapid and too slow development. In agriculture, these cycles are very long.

Studies of Abandoned Farm Areas

In 1906, the Department of Farm Management[2] began some studies of the abandoned farm areas. Some of these areas were again studied in 1917 and 1927 so that the progress of abandonment was obtained. In 1924, the project was definitely taken up and has since been continued, first by Dr. Allen, now of the University of Saskatchewan, and later by Mr. Vaughan. Business records have been obtained for the occupied and for idle land in 10 areas, including 143,399 acres. Such studies include acreage, soils, yields, animals, receipts, expenses, profits, taxes, woodlots, pastures, condition and value of buildings, ages and experience of operators, and the like. For idle farms, ownership, value, taxes, year abandoned, condi-

TABLE 5. AREAS FOR WHICH FINANCIAL AND OTHER RECORDS WERE OBTAINED FOR OCCUPIED AND IDLE LAND

Region	County	Number occupied farms	Number vacant farms	Parcels of land	Per cent of area in woods	Per cent of area in crops other than hay	Both house and barn fairly good	Total acres
Connecticut Hill	Tompkins	31	78	14	31	6	16	10314
Bald Mountain	Tompkins	16	31	7	34	6	14	5702
South Bradford	Steuben	63	93	26	—	—	23	17600*
The Swale	Steuben	34	49	26	—	—	25	11600*
Pharsalia	Chenango	98	66	—	25	3	—	25445
Virgil	Cortland	37	48	31	—	—	4	12400*
Smyrna	Chenango	36	37	7	—	—	12	9000*
Area No. 1	Tompkins	94	98	45	42	8	76	25365
No. 2	Cayuga	50	44	20	14	12	44	11168
No. 3	Chautauqua	77	46	—	22	11	—	14803
		Total						143399

*Preliminary figures wil be slightly revised.
Receipts and expenses were not obtained for South Bradford, Virgil and Smyrna.

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[1] Pearl R. The Biology of Population Growth, p. 14, 1925.

[2] Warren, G. F. and Livermore, K. C., An Agricultural Survey, Cornell University Agricultural Experiment Station Bulletin 295, pp. 463-473, 556-557, 1911.

tion of land and buildings and much other information, was obtained.

Records of the use of houses and of land adjoining the road have been made for 18 areas, including 186,200 acres. The latter type of study is useful for determining which areas should be more fully studied. The areas covered include most of the large abandoned areas in 10 counties.

It is best to begin reforestation in the areas that are of least agricultural value. Of the land that is better adapted to forests than to farming, the better parts can be left until the poorer land has been put into use.

TABLE 6. AREAS IN WHICH THE USE AND CONDITION OF BUILDINGS, AND USE OF LAND ALONG THE ROADSIDE WERE OBTAINED

Region	County	Number occupied houses	Number vacant houses	Number houses gone	Both house and barn fairly good	Per cent of cleared land idle	Per cent of cleared land in crops other than hay	Approximate acreage
Monterey	Schuyler	16	23	19	4	50	8	6800
Pine Valley	Schuyler	31	23	30	7	42	12	6100
South Danby	Tompkins	50	32	31	17	43	13	12500
Eastman Hill	Tompkins	18	12	7	3	48	6	4900
Straits' Corners	Tioga	16	18	9	6	43	10	3900
Prospect Hill	Tioga	21	22	16	6	52	7	4700
South Apalachin	Tioga	14	10	11	1	33	16	4300
Cheningo	Cortland	42	62	31	12	42	7	17700
Muller Hill	Madison	48	42	23	14	35	8	12200
Pharsalia +	Chenango	166	202	93	67	31	4	57200
Castle Creek	Broome	15	16	8	4	34	7	3500
Lebanaon	Madison	7	15	12	2	45	10	4600
Bobell Hill	Chenango	10	11	15	5	46	3	4200
Gorton Lake	Madison	34	40	37	8	49	4	11800
Quaker Hill	Madison	24	35	22	11	44	7	11300
Area No. 4	Steuben	45	34	19	25	11	24	8600
No. 5	Chenango	21	19	9	5	19	8	7100
No. 6	Chenango	14	9	6	4	32	7	4800
		Total						186200

The areas that are the given numbers are in better condition than most of the other areas, but there is some forest land in each area.

Of the 25,445 acres studied in the town of Pharsalia, 15,198 acres were classified as forest land. This area included 60 per cent of the land, but produced only 33 per cent of the farm income. Considerable of the remaining land will be ready for forest by the time this land is reforested. Large areas of similar land are available in this general region.

Extended reports on these areas are being prepared, from which a few details for three areas are given here.

The Pharsalia Area, Chenango County, Studied in 1924

The population of Pharsalia is now less than half of what it was ninety years ago. Abandonment began soon after settlement was completed,

TABLE 7. POPULATION OF PHARSALIA TOWNSHIP, CHENANGO COUNTY

Year	Population
1797	8
1810	482
1814	550
1820	873
1825	895
1830	1011
1835	1170
1840	1213
1845	1209
1850	1185
1855	1152
1860	1261
1865	1112
1875	1085
1892	972
1905	690
1915	699
1923	553
1925	506

as soon as the lumber was cut. The population of the entire township is given in table 5. The abandonment of the higher areas has gone further than these figures indicate.

Most of the settlers came from Connecticut. All of the farmers in 1924 were native Americans, and 80 per cent of them were born in the county.

In 1845, there were 235 farmers in the town; in 1924 there were 97. They had lived in the township an average of 35 years. They averaged 48 years of age. Most of the young men have left.

The original farms were usually about 100 acres.

Of those who own the idle farms, 61 per cent have moved to farms elsewhere.

The highest point in the town is 1997 feet, the lowest is about 1200. The farm buildings average 1700 feet in elevation.

Census figures, as well as the size of the barns, indicate that the crop yields have always been low. In 1924, yields for the entire township were 47 per cent of the State average. Yields in the forest area were even lower. A tenant can rent a good farm in the State for half the crop. The landlord maintains the buildings and pays taxes and many other expenses, so that a tenant on an average farm receives a larger crop, at less cost, than does the owner of a poor farm.

For the entire township, 11 per cent of the crop land was in crops other than hay. Most of the hay was wild grasses and weeds, that make a very inferior hay.

The farmers estimated that 45 per cent of the trees in the woodlots were maple, 32 per cent beech, 8 per cent hemlock, and 15 per cent all others.

Taxes averaged 42 cents per acre in 1924.

Of this area, 15,198 acres were classified as distinctly forest land. On this area, there were 45 places where the houses had fallen or burned, 50 vacant houses, most of them disintegrating, 38 occupied houses.

The average value of the farms was estimated at $10.40 per acre; and 28 per cent of this land was in woods.

Before such land is taken for forestry purposes, its contribution to the food supply should be known. The value of all products used by the farmer and his family and all products sold, in 1924, averaged $3.86 per acre of cleared land. Materials brought in from outside cost $1.55, leaving a net contribution of $2.31. In this accounting, no charge is made for interest, taxes, or the time of the farmer. One and one-half days of labor were required. This amount of time and quantity of imported materials would yield much more if used on better land.

TABLE 8. VALUE OF PRODUCTS USED BY THE FARMER'S FAMILY OR SOLD, PER ACRE OF CLEARED LAND, 1924

Sold or used	Amount sold or used	Value per acre cleared land
Hay	5 pounds	$0.03
Potatoes	0.4 bushels	0.24
Buckwheat		0.01
Milk	62. quarts	2.57
Eggs	1.6 dozen	0.39
Livestock (less purchases)		0.62
		$3.86
Purchased feed and other materials brought into the area		1.55
Net amount to pay interest and taxes and pay for 1.5 days of labor		$2.31

Connecticut Hill Area, Tompkins County, Studied in 1926

This area was settled mostly by Revolutionary soldiers and others from Connecticut. Twenty-one years ago, most of the farmers were descendants of the original settlers, but the young men were gone. As the native farmers died, the area became one of shifting population.

In 1926, the operators averaged 50 years of age. There were only 8 males living in the area who were between 20 and 40 years of age.

The properties in the area in 1926 were as follows:

	Number	Acres
Occupied farms, operated	20	2,352
Occupied farms, not operated	11	782
Vacant farms	78	6,505
Parcels of land	14	675
Total	123	10,314

Of the total land in the area, 76 per cent was idle or in woods. The uses of land were as follows:

	Acres	Per cent of total area
Farmsteads	292	3
Hay	799	8
Other crops	580	6
Pasture	729	7
Idle	4,655	45
Woods	3,259	31

There were 31 occupied and 78 vacant farms. Eleven of the vacant farms had been vacant for fifty years or more, and 44 had been vacant for ten years or more. The neighbors often cut hay on the farms for some years after they are left vacant. Some hay was cut in 1926 on 20 of the vacant farms.

Thirty-five per cent of the owners of vacant farms are farming elsewhere. The others are engaged in 21 different occupations.

White and red pine do well in this area. Near a seed tree, young pines come in. Most of the fields that have been idle for twenty years are as bare as when abandoned, except along the edge of woods.

The estimated land values were $14.10 per acre. The land was assessed at $8.97 per acre.

Taxes averaged 42 cents per acre in 1925, and 37 cents in 1926.

Total sales from operated farms, above livestock bought		$11,404
Total farm business expenses except taxes and interest. (No charge is made for the labor of the farmer and his family)		7,701
Difference		$3,703
Taxes on operated farms	$1,184	
Taxes on other land	$2,605	
Total taxes		$3,789

TABLE 9. VALUE OF PRODUCTS USED BY THE FARMER'S FAMILY OR SOLD PER ACRE OF CLEARED LAND, 1926

Sold or used	Amount sold or used	Value
Potatoes	0.31 bushels	$0.41
Buckwheat	0.15 bushels	0.12
Beans	0.02 bushels	0.07
Other crops		0.11
Milk	3 quarts	0.15
Butter	1.1 pound	0.51
Cream		0.10
Eggs	1.1 dozen	0.37
Wool		0.02
Livestock (less purchases)		0.54
Total		$2.40
Purchased feed, fertilizer, and other materials brought into the area		.70
Net amount to pay interest and taxes and pay for 1.1 days labor		$1.70

Taxes paid in 1926 amounted to more than the net receipts from all sales on operated farms in the area. Money made elsewhere is sent in to pay taxes on vacant farms, and new buyers of farms bring in money to support the area.

Bald Mountain Area, Tompkins County

This area was settled over 100 years ago. Twenty-one years ago the land was mostly occupied by the descendants of these settlers, but in 1927, none of the farm operators were persons who were born in the area. Most of the sales are made to city persons, western farmers and foreigners, who do not know the region. The average period of residence in the area was 3 years.

The farm operators in 1927 were as follows: 1 coal miner from Pittsburg, 1 farmer from Wyoming, 1 railroad worker from St. Louis, 1 farmer from Michigan, 1 teamster from Monroe county, 1 shop worker from Cortland, 1 painter from New York City, 1 copper miner from Michigan, 1 wire mill foreman from Pennsylvania, 1 blacksmith from Syracuse, 1 machine-shop worker from Pennsylvania, 1 farmer from Broome county, 1 farmer native of the county. One man lived on a farm but worked as a day laborer. Two men lived on farms in the region but were primarily lumbermen.

The properties in the area in 1927 were as follows:

	Number	Acres
Occupied farms, operated	14	2118
Occupied farms, not operated	2	173
Vacant farms	31	3137
Parcels of land	7	274
Total	54	5702

Of the cleared land 58 per cent was idle. The uses of land in 1926 were as follows:

	Acres	Per cent of area
Farmsteads	172	3
Hay	617	11
Other crops	393	6
Pasture	491	9
Idle	2088	37
Woods	1941	34

One-third of the owners of the vacant farms were farming elsewhere, and the rest were engaged in 12 different occupations. About one-half of the present owners of these vacant farms never lived on them. Those who did were there, on the average sixteen years, and have owned the farms for 10 years since leaving.

The estimated land values were $12.57 per acre. Assessed values were $10.64 per acre.

The estimated value of the occupied farms averaged $16.37, vacant farms $10.79, and parcels of land without buildings averaged $8.01.

Location and Character of Abandoned Land

Of the 329,000 acres studied, about one-fourth is in woods and would not need to be planted. Of the cleared land, from 3 to 10 per cent is in crops other than hay, and from 30 to 60 per cent idle.

The major areas of abandoned farm lands are in the highlands bordering on the Adirondack and Catskill mountains and the highlands of southern New York. Abandoned lands are abundant in some other areas. Such farms are usually at the higher elevations. Most of the abandoned farm lands are in the areas that are very deficient in lime. Such soils are not well adapted to farm crops but are excellently adapted to certain species of trees.

Some of these soils, such as Connecticut Hill in Tompkins County, originally carried a heavy stand of white pine. The more run down the farm is in these areas, the easier it is to reforest, because the absence of grass makes planting very easy. Fields that have been untouched for from ten to twenty years often have very little vegetation of any kind, except for a small area around seed trees.

Some of the other abandoned farm areas such, as the Pharsalia district, are in regions which have wet soils that were originally covered with hardwood and hemlock. The process of reforesting by natural means is almost equally slow in these areas.

Why Were the Lands Abandoned?

Soon after the Revolutionary War, New York State was settled with great rapidity. A multitude of people were anxious to obtain land. They settled practically all of the land regardless of its quality. Some income was often obtained from the sale of timber, while the land was being cleared. Abandonment in most of the poor areas began almost as soon as settlement was completed.

Crop yields in these poor areas were never very good. This is verified by census returns and by a comparison of the size of barns and corn cribs with those in more prosperous districts.

The burning of the forest provided a little lime for the surface soil, and the decaying tree roots left the soil in a friable condition so that it was somewhat easier to produce crops when the land was settled.

The abandonment of this land is primarily due to the natural characteristics of the soil. Changed economic conditions have contributed to abandonment. When the land was settled, commercial fertilizers and tile drains were unknown, and lime was not available for use. Much of the best level land required drainage before it could be used, but with drainage, it became very superior land. It would be very easy to increase crop yields on the good lands by 25, or even 50 per cent, by the use of tile-drains, fertilizers, and lime. Such an increase can be obtained with much less effort than is required to produce the same product in the abandoned farm areas.

Another reason for the shift of production from poor to good land is that the poor land is usually not well adapted to the use of grain-binders, potato-planters and diggers, tractors, and the like. Much of the land is of such a nature that it would be much more expensive to lay tile-drains than on good land. And on much of it, the drains would not work well even if laid. Every step in progress makes it relatively more advantageous to obtain the food supply by the more intensive use of good land rather than by the use of inferior land. The high ratio of wages to prices of commodities accelerates this movement.

How the Process of Abandonment Occurs

An agricultural region may be settled very quickly, but if a mistake is made, abandonment is an exceedingly slow and painful process. In many regions in New York, abandonment has been going on for from fifty to seventy-five years and is yet far from complete. In the poorest part of Pharsalia township, abandonment had been going on for sixty-five years, but 28 per cent of the houses were still occupied. Usually the first step in abandonment of land is for the young men and women and some of the older persons to leave the farms. One of the children may return to look after the parents when they are old, or may return to look after the property after the farmer dies. Once there, the problem becomes that of remaining *a year at a time* in hope of a sale.

In many cases, sales are made to city persons, western farmers, or foreigners who do not understand conditions. These people frequently bring in money, repair the buildings, and waste the best years of their lives before they escape by selling to another person who does not understand conditions. The procedure is then repeated. For many years real estate agencies have advertised these farms in the West, and many western farmers have purchased them. This is giving the State a bad reputation. There are excellent opportunities for western farmers in New York, but not in the abandoned farm areas.

Permanent abandonment usually does not occur so long as the house is habitable, because it is often possible by waiting a few years to sell to some unsophisticated person. When outside money is brought in to fix the buildings, it delays permanent abandonment. For example, two such areas were settled by Finnish farmers. In one of these, every Finn has gone. In another, the buildings have been improved, mostly with money brought from the outside, but abandonment has begun. Of 74 such farms, 15 were vacant. The building improvements made with outside money may delay final abandonment for many years.

Ownership of Abandoned Land

Most of the abandoned farms are still owned in small tracts by persons who continue to pay taxes. Taxes usually amount to from 40 to 60 cents per acre per year. The owner often hopes that he may sell at from $5 to $20 per acre. If he does not pay his taxes, the property is a complete loss. If he pays the taxes, he hopes for a sale. Usually he has little property besides the farm. To let the land go would mean the loss of most of his worldy possessions. He is exceedingly reluctant to give up, as long as there is any possibility of making a sale. After taxes have been paid for a number of years, he would be very glad to give the property away if he could get his tax money back. But he will probably pay the taxes again this year in the hope of a sale.

Would Other Farmers Make a Success in These Poor Areas?

The original settlers were of the same type as those who settled good land. In fact, what is now the best land was often the poorest land because it was in the level valley areas that could not be farmed without drainage, whereas the hills often had the best trees and needed clearing only. The descendants of the original settlers on poor land have less education than those in the good areas. This is because they must stop school at an early age in order to earn their living. The people in the poor areas are usually very conservative. This often leads visitors to believe they are not good farmers. They have learned that a dollar spent on a poor farm does not often return. If they ever do get a dollar, they keep it. They let the farm buildings decay. The western farmers, foreigners, and persons from cities fail more promptly.

Would Another Type of Farming Pay?

Every type of farming imaginable has been tried and is being tried today.

What Would Become of the Present Settlers if the Land Were Taken for Forests?

In most of the forest areas, there are valleys, and sometimes other areas, that will continue to be farmed so that agriculture and forestry will be interspersed. The persons now living in areas that are taken for forests will find occupations similar to those followed by persons who have previously left the region. The occupations are decidedly variable. The most common one is farming.

How May the Land Be Brought Into Use?

The vast areas of idle land in the State are not only non-productive but they have a very depressing influence on agriculture and on the State as a whole. The traveler sees so much idle land that he does not notice the excellent farms. The farmers of the State who are on good farms are depressed by seeing the innumerable failures in their occupation. These lands are constantly wasting the lives and money of new buyers who should be spending their time and money on better land.

Fields that have been idle for twenty years are often bare except around the edges where there are seed trees. After a field has been idle for a time, a neighbor may run a mowing machine over it in order to get the little hay that grows, and so cut off any trees that did start.

The owner cannot reforest the land, because with so little property he cannot make long-time investments. Even if he could, he could not afford to pay the taxes.

If the land were relieved from taxation, some wealthy individuals would be glad to buy it in large tracts for private recreation and hunting. A better policy would seem to be to hold it for lumber and public recreation. Fortunately there are areas that are readily accessible from all parts of the State.

The township in which much of this land is situated is a poor township, and the county is frequently a poor county unless it happens to include a large city. Therefore, the local governments are not in a position to do a much of the reforesting.

Cities, villages, counties, towns and school districts should be encouraged to plant trees. But the area is so large that there is no probability of getting a large percentage of it planted by these agencies. Apparently the State must do much of the work if it is to be done.

The State has three uses for such land, lumber, recreation and hunting. The State obtains revenue from hunting licenses and automobile taxes. The individual receives revenue from lumber only. The State is, therefore, in a better position to reforest than is an individual.

A state investment in such lands is very different from an investment in buildings. It is an investment in a growing crop, which appreciates instead of depreciating. Judging by the experience of this State, as well as by the experience of other countries, the appreciation will be large. There will probably never be a time when the State can purchase these lands more advantageously than at present, and no time when such purchase would be more beneficial to agriculture. The prompt purchase of large areas in many localities seems desirable.

Before the land is taken for forestry purposes, a complete farm-management survey is desirable to determine the status of the area. This is desirable in order to know which areas to buy first, and to furnish basic data of the food contribution made by the area. If this is not done, there is danger of public misunderstanding. Soil, forest and other surveys are also needed. Some of these can be made after the land is purchased.

Taxation

Except around the Adirondack and Catskill mountains, the abandoned farm areas are usually hill areas of from 500 to 10,000 acres, interspersed with valley land that is suitable for farming. This distribution has some advantages from the forestry standpoint. Fire risk is greatly reduced. Help will be available for planting, fighting fires and other operations. But the mixture of forestry and agriculture brings with it a tax problem.

Any sound taxation policy must consider the other land as well as the forest land.

Whatever agency takes over such land, provision must be made for the maintenance of such local institutions as are still required. Some roads may be closed. In many cases an entire school district may be completely depopulated. In some cases, townships should be combined. But many of the roads would still be needed, and local government and education must continue. If the poorest land is freed from taxation, and the entire burden thrown on the next poorest land, it amounts to confiscation of the remaining land that might be used for farming.

If a portion of the land is removed from taxation and a corresponding reduction cannot be made in services, provision must be made to maintain the necessary local services.

G. F. Warren and L. M. Vaughan

MILK PRODUCTION IN THE NEW YORK MILK SHED DURING THE FALL OF 1927[1]

In November and December of 1925 and 1926 the supply of milk from sources approved by the New York City Department of Health was barely adequate to meet the demand. Since the metropolitan area requires about five per cent more milk each year to satisfy its increasing demand, it was apparent that the New York milk shed would have to increase its production in 1927 or it would be necessary to extend its limits. At a conference of representatives of the dairy industry called by the Commissioner of Health last April, it was decided that dairymen in the present milk shed could increase their production to meet the demand if milk prices were advanced in conformity with market conditions. This decision was announced immediately so that dairymen might make the necessary preparations to increase the late fall and early winter production. In furtherance of this program, the New York State College of Agriculture, Farm Bureaus and producers' organizations held meetings throughout the milk shed to discuss the market situation and to suggest economical methods of feeding for increased production.

The anticipated price increase occurred August 22. On that date, the price of Class I milk was advanced 42 cents per 100 pounds to stimulate production during the time of lowest supply some three months later. One of the methods of increasing production which had been advocated at the spring meetings was to supplement declining pastures with grain, in order that spring-freshening cows would enter barn feeding with a good flow of milk. Although this early feeding would result in some increase during

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[1] Farm Economics No. 44, p. 669. Apr. 1927.

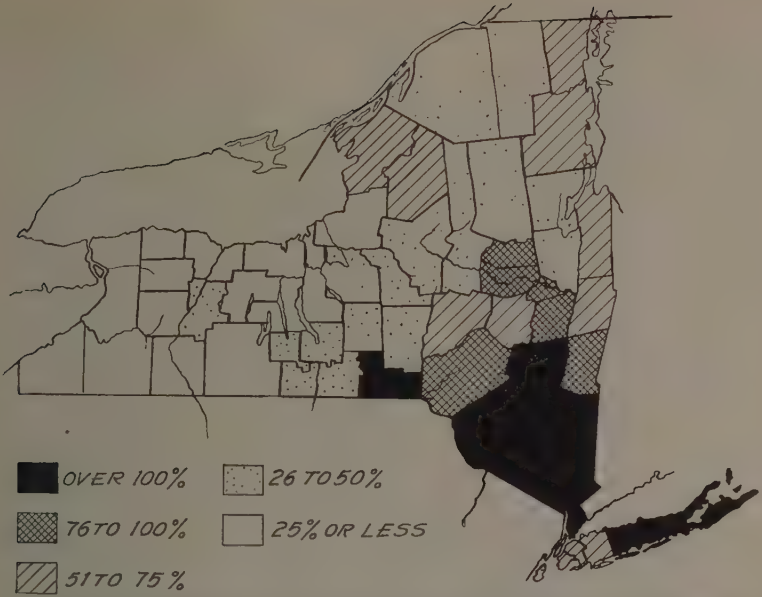

FIGURE 1.—SEPTEMBER, 1927, RAINFALL IN PERCENTAGES OF SEPTEMBER, 1926 RAINFALL

Dry weather in September, 1927 resulted in very poor pastures and handicapped dairymen in their attempt to increase production.

the summer when the market did not need the milk, the practice appeared necessary because of the difficulty of getting cows back to full production if they once dropped. The deliveries of milk to shipping stations in August, indicated that this advice was being followed to a certain extent. The average production per day per dairy,[2] on some 13,000 farms was 6.1 pounds greater during August, 1927 than it was during the same month of 1926. As a matter of fact, for the first three weeks of August, production ran much above this figure. September production, however, actually fell below that of the previous year by about 1.4 pounds per day per dairy. This was due to the extremely dry weather. Rainfall throughout most of the milk shed was only about one half as great as the previous year. In the western counties of the state, the September, 1927 precipitation ranged from 4 to 37 per cent of the previous year (Figure 1). Pastures furnished but little feed, and had it not been for the liberal use of soiling crops and supplementary concentrates, production would have fallen much lower.

Heavy rains in the early part of October revived pastures to some extent, and an unusually fine growth of aftermath furnished a large amount of cheap feed. Consequently, the efforts of dairymen to increase production began to show their full effect about the middle of October (Figure 2). By the first of November, production per day per dairy was about 8 pounds higher than the previous year. Again, adverse weather seriously affected the supply and, for a few days, threatened a milk shortage.

The New England flood not only shut off Boston's milk supply and necessitated emergency shipments from New York, but it also interrupted traffic over the Rutland Railroad and cut off some 5,000 cans of milk that had been coming to New York over that road. At almost the same time, the entire milk shed was struck by a severe storm, accompanied by very cold weather. The production per day per dairy dropped 16 pounds in two days (November 4 and 5).

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[2] Production data through the courtesy of the Dairymen's League Cooperative Association, Inc., Sheffield Farms Company, Inc. and Borden's Farm Products Co., Inc.

Fortunately, the acute situation in the market disappeared almost as quickly as it had appeared. Much of the milk that had been lost when the New England flood interrupted traffic over the Rutland Railroad was routed to New York over the Delaware and Hudson Railroad. The cold weather was followed by a period of unusually mild temperatures. Cows that had been on pasture when the cold wave arrived were stabled, and winter methods of dairying were adopted. As a result, production rose rapidly and in less than a week was about 9 pounds per day per dairy higher than in 1926. With the exception of this one week of severe storms, the November and December, 1927 production exceeded that of the previous year by approximately 9 pounds per day per dairy.

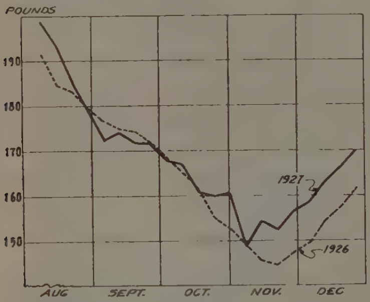

FIGURE 2.—AVERAGE PRODUCTION OF MILK PER DAY PER DAIRY ON MORE THAN 10,000 FARMS IN THE NEW YORK MILK SHED

With the exception of one week of severe storms, the November and December, 1927 production exceeded that of the previous year by approximately 9 pounds per day per dairy.

It must be admitted that the supply of milk last November was too close to demand for safety. Not only was all of the increased production of the old dairies absorbed by the market, but many new dairies in the milk shed made the changes necessary to obtain the approval of the New York health authorities, and the milk from these farms was used also. The fact remains, however, that the demand was successfully met, with the possible exception of two or three days when the floods interrupted traffic. Taking account of the handicap under which they operated last fall, the dairymen of the New York milk shed made a remarkable showing in their efforts to increase production. They have proved conclusively that they can supply the market *when milk prices justify the added effort and expense.*

H. A. Ross

COMPARATIVE COSTS OF OPERATING COUNTRY MILK PLANTS SHIPPING RAW MILK, PASTEURIZED MILK, AND BOTTLED MILK, 1925.[1]

In country milk plants shipping pasteurized milk in cans the pasteurization process was performed in addition to the regular operations performed in the raw milk plants. In the bottling plants the milk was shipped in bottles instead of in milk cans as in the raw milk and pateurizing plants. These additional operations increased the total operating cost in the pasteurizing plants to 1.3 times, and in the bottling plants to 3.1 times the corresponding cost in the raw milk plants (Table 1).

In the pasteurizing and bottling plants, the land and building costs were greater than the corresponding costs in the raw milk plants due to the use of larger sized buildings of a more expensive type of construction for handling the larger number of operations. In the raw milk plants, an

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[1] The effect of volume of milk handled on the operating cost per unit of product in each of these three types of plants is shown in "Farm Economics," numbers 45 and 46.

TABLE 1.—COMPARATIVE COSTS OF OPERATING RAW MILK, PASTEURIZING, AND BOTTLING PLANTS, 1925

	Cost per plant			Cost per 100 pounds of milk (cents)		
	Raw milk plants	Pasteurizing plants	Bottling plants	Raw milk plants	Pasteurizing plants	Bottling plants
Number of plants	38	8	6	—	—	—
Average volume of milk:						
pounds per year	7,057,668	7,131,489	7,178,492	—	—	—
cans per day	227	230	231	—	—	—
Land and buildings	$ 2486.32	$ 3389.52	$ 7273.64	3.52	4.75	10.13
Equipment	1873.22	2842.64	7155.66	2.65	3.99	9.97
Direct labor	6584.71	7795.49	18784.71	9.33	10.93	26.17
Supplies	3512.05	3921.22	13637.28	4.98	5.50	19.00
Miscellaneous	1707.81	2871.09	2541.26	2.42	4.03	3.54
Total operating cost	$16164.11	$20819.96	$49392.55	22.90	29.20	68.81

average of 3,985 square feet of floor space were used out of a total area of 4,881 square feet. In the pasteurizing plants, 4,625 square feet out of 5,583 square feet, and in the bottling plants 9,319 square feet out of a total of 10,093 square feet were used.

The annual equipment costs were in proportion to the replacement value of the equipment used. In the 8 pasteurizing plants, the average equipment cost was 1.5 times as great as the corresponding cost on the 38 raw milk plants. The average equipment valuations were $17,165.99 and $11, 472.09 respectively. The additional amount of the former over the latter consisted of the valuation of the pasteurizing equipment and the increased valuation on the larger steam boilers required. In the 6 bottling plants, the average equipment cost was 3.8 times the cost in the raw milk plants. This large increase was due to the charges arising out of the use of expensive bottle filling and bottle washing equipment in addition to the pasteurizing equipment. The average valuation of the equipment in the 6 bottling plants was $46,134.74.

The direct labor cost increased in the various types of plants as additional processes were included in their operations. In the plants with the more complex processes (pasteurization and bottle filling), the amount of skilled labor relative to all labor employed increased, this factor also having made for higher total labor costs. In the pasteurization plants, a small amount of additional skilled labor was needed to regulate the pasteurization process, and some additional unskilled labor for firing the steam boilers. In the bottling plants, the additional amount of labor used was about 1.5 times that used in the raw milk plants, and a large share of it was skilled and received relatively high wage rates.

The cost of the supplies used was slightly greater in the pasteurizing plants than in the raw milk plants, and much greater in the bottling plants than in either of the former (tables 1 and 2).

TABLE 2.—COMPARATIVE COSTS OF SUPPLIES USED IN RAW MILK, PASTEURIZING, AND BOTTLING PLANTS, 1925

Kind of plant	Total cost			Cost per 100 pounds of milk (in cents)		
	Raw milk	Pasteurizing	Bottling	Raw milk	Pasteurizing	Bottling
Coal	$1141.17	$1801.08	$ 3053.51	1.6	2.5	4.3
Cleansing material	242.59	335.99	646.41	0.3	0.5	0.9
Bottle caps and rings	—	—	5733.76	—	—	8.0
Other supplies (including ice)	2128.29	1784.15	4203.60	3.1	2.5	5.8
Total supply cost	$3512.05	$3921.22	$13637.28	5.0	5.5	19.0

The average quantity of coal used for generating steam in the 38 raw milk plants was 214.8 tons. In the 8 pasteurizing plants the average quantity was 325.4 tons and in the 6 bottling plants 548.1 tons. In the pasteurizing plants, the cost of cleansing material was less than double what it was in the raw milk plants. In the bottling plants, however, the corresponding cost item was 3 times as great due both to the fact that there was considerable more equipment to keep clean and the washing of the bottles required additional quantities of washing powders.

Very nearly one-half of the cost of supplies in the bottling plants was for bottle caps, hoods and rings. In the plants which bottled grade "A" milk, caps, hoods and rings were all used, at a cost of 11.5 cents per 100 pounds of milk (0.24 cent per quart). In the plants which bottled grade "B" milk, bottle caps alone were used, at a cost of 1.9 cents per 100 pounds of milk (0.04 cent per quart).

In "Other supplies" were included natural ice, machine oils, testing materials and any other supplies used in operating the plants. The smallness of this item in pasteurizing plants was due to the fact that artificial refrigeration was in use in 3 of the 8 plants, thus excluding the large items of natural ice cost from the total.

The cost of the steam generating operation was the most greatly affected of any of the operations occurring in the three types of plants by changes in the nature of the processes performed. In Table 3 are shown comparative costs per 100 pounds of milk in plants which handled on an average 185 cans (40 quarts each) per day.

TABLE 3.—COMPARATIVE COSTS OF GENERATING STEAM* IN RAW MILK, PASTEURIZING, AND BOTTLING PLANTS, 1925

Kind of plant	Number of plants	Average annual output (pounds)	Pounds of coal used per 100 pounds of milk	Cost per 100 pounds of milk		
				Coal	Other supplies	Total
Raw milk	9	5,858,051	6.3	1.7	2.7	4.4
Pasteurizing	5	5,871,886	7.9	2.3	3.5	5.8
Bottling	3	5,777,997	13.8	3.8	5.6	9.4

* Includes no plants using steam driven ice machines.

In pasteurizing plants, the steam used in the pasteurizing process brought about an increase of about one-third in the cost over the cost per 100 pounds of milk in the raw milk plants. The extra amount of steam needed for operating and cleaning the added equipment in the bottling plants more than doubled the cost as it occurred in the raw milk plants.

C. K. Tucker.

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management
NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 51 MARCH, 1928

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates: 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	191	173	236	281	83
July 1926	154	163	143	156	172	190	174	232	249	81
Aug.	152	150	140	147	169	191	173	233	256	79
Sept.	154	148	140	148	171	197	174	236	254	78
Oct.	153	140	134	148	171	196	174	237	246	81
Nov.	151	150	135	151	170	183	175	235	250	85
Dec.	150	145	133	150	169	185	176	238	256	87
Jan., 1927	150	142	130	145	171	194	175	237	252	96
Feb.	149	142	132	145	171	191	174	237	258	95
Mar.	148	142	131	142	172	193	173	240	261	90
Apr.	147	147	130	143	172	200	173	235	264	93
May	147	167	132	146	172	192	174	235	273	94
June	146	172	134	149	172	182	173	235	275	93
July	147	161	137	148	167	186	171	233	280	85
Aug.	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Jan., 1928	149	148	141	143	168	190*	172*	236	318	89
Feb.		149*	138	142*					316	95

*Preliminary figure will be revised later.

(Footnotes continued on next page.)

FARM PRICES

The index number of prices paid to producers for farm products during February was only 38 per cent above pre-war. This index is 3 points less than one month ago. During the month, 13 farm products rose and 10 fell. The decline was due primarily to a sharp drop in the price of eggs and cotton. Most of the other changes were small. Compared with other things, grain, hay, eggs, and hogs are very cheap.

A year ago, the index of farm prices was 32 per cent above pre-war. It rose to 46 per cent above last fall, has since declined, and is now only slightly higher than a year ago. During this time, striking changes in prices have occurred. There have been unusually rapid advances in the prices of cotton, apples and beef cattle and moderate advances in the prices of corn, oats, barley and wool. There have been striking declines in prices of hogs and potatoes, and moderate declines in the prices of hay, chickens and sweet potatoes.

Altho prices paid to producers for all farm products are above the level of a year ago, the prices paid to farmers for food products are about the same as a year ago.

The New York farm prices are higher than those for the United States and approximately the same as the general price level. Milk prices this winter are considerably higher than those of a year ago.

Feed Prices

The number of hogs in the United States increased 8 per cent last year. Since hogs eat such a large percentage of the grain feeds, this increase is raising the price of feed. Improved prices for beef and dairy products are stimulating the use of more grain. The demand for feed is high and promises to remain high until there is a reduction in the number of hogs, which is not likely to occur for one or two years.

The total pounds of grain produced in the United States in 1927 was 4 per cent above the previous year. The smaller cotton crop reduced the supply of cotton seed meal.

Feed prices have advanced rapidly. In February, a dairy ration delivered at Utica, New York, cost 54 per cent above pre-war prices. In only five months since 1920 have prices been this high.

The index numbers of prices of practically all feeds rose. Striking advances occurred in the prices of corn meal and cottonseed meal. Compared with pre-war, cottonseed meal is the most expensive, corn meal next.

G. F. Warren and F. A. Pearson

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February, 1927.

[4] Cost of assembling, transporting, processing and distributing food. For methods of calculation, see Farm Economics, No. 50, p. 830, Jan., 1928.

[5] The index numbers for December and June are those published by the United States Bureau of Labor Statistics. Intervening months bear the same ratio to these figures that Snyder's index for the intervening months bears to his figures for June and December. Both index numbers use 1913 as 100, but Snyder's shows that the five year period, 1910-14, also averages 100.

[6] Data furnished by the Department of Labor of New York. Union wage rates in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[7] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[8] Data for prime comercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

PURCHASING CENTERS OF NEW YORK STATE FARM FAMILIES

Farm families in New York State tend to buy groceries and supplies, and the more ordinary articles of clothing in the small villages near home. They go to cities at a greater distance for their furniture and furnishings, and still farther and to larger cities for the items of clothing about which they are likely to be most particular, according to the replies from 325 farm families who answered a questionnaire sent out during the summer of 1927.[1]

The size of purchasing center which these farm families usually patronize for the various articles is shown in table 1. Groceries, soap, kerosene, and rubber boots are bought principally in villages under 2,000 in population, although a large percentage of the families buy these articles in villages and small cities between 2,000 and 5,000 in size. Few of the families buy them in cities over 10,000 in size. For all the other commodities listed, the villages and small cities from 2,000 to 5,000 inhabitants are patronized to a greater extent than the villages under 2,000.

TABLE 1.—PERCENTAGE OF FARM FAMILIES USUALLY BUYING THE LISTED COMMODITIES IN VILLAGES AND CITIES OF SIZES INDICATED. NEW YORK STATE, 1927*

Commodities	Size of town			
	Under 2,000	2,000 to 4,999	5,000 to 9,999	10,000 to 600,000
	percent	percent	percent	percent
7 *Commodities* Women's hats, silk dresses, wool dresses, and corsets; children's coats, wash dresses and suits, and underwear, (for children up to 6 years); girls' coats, dresses, underwear and stockings; boys' suits and coats.	9.0	39.7	5.1	46.3
14 *Commodities* Women's coats, underwear, house dresses, and shoes; children's stockings; girls' hats; men's suits, hats, and overcoats; wool dress goods, cotton dress goods, table cloths; baby carriages, sewing machines.	13.0	37.6	5.0	44.5
14 *Commodities* Women's stockings; children's shoes; girls' shoes; boys' caps and underwear; sheets, blankets; dressers and chiffoniers, refrigerators, living-room chairs, dining-room tables, bedsteads, kitchen chairs, rugs and carpets.	18.5	39.2	4.4	37.8
14 *Commodities* Boys' shirts and shoes; men's shirts, underwear, socks, shoes and overalls; rubbers; cotton print, gingham, or percale; mattresses, linoleum, ranges, heating stoves; fresh fish.	30.4	41.2	3.3	25.1
14 *Commodities* Rubber boots; fresh and cured meat, sugar, canned salmon, tea and coffee, soap, oranges, navy beans, cereal breakfast foods, flour, butter and butter substitutes, bread; kerosene.	49.9	39.9	2.6	7.6

*The commodities were ranked on the basis of the percentage of the total number of families reporting buying each commodity in villages of the smallest size, under 500 in population. Only records of those families who reported buying the commodity in one village or city, exclusively, are included here; mail order buying is not included.

But the larger cities, from 10,000 to 600,000, receive the trade of the largest percentage of the families for hats, coats, dresses, and suits for all members of the family; underwear for the women, girls, and younger children; shoes for the women, stockings for the girls and younger children; dress goods and table cloths; baby carriages and sewing machines. A very small percentage of the families buy these articles in villages under 2,000 inhabitants.

(Continued on page 865)

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[1] The questionnaire listed 70 household commodities, including groceries, supplies, clothing, and house furnishings. It was sent to patrons along certain rural postal routes emanating from 37 villages, the largest of which had a population of 5,206, the smallest, 85; while the average population was 2,036. The replies which were tabulated were from farm families in 33 counties. About two-thirds of the families were living on farms between 50 and 250 acres in size.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota-toes
	bu.	bu.	bu.	bu.	bu.	bu.	bu.	lb.	ton	bu.	bu.	bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January......	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February.....	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March........	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April.........	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May..........	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June..........	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July..........	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August.......	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September....	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October......	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November....	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December....	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
Average......	64.8	39.9	88.0	61.7	73.3	168.8	2.26	12.4	11.94	112	69.6	87.6
1914............	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915............	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916............	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917............	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918............	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919............	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920............	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921............	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922............	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923............	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924............	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925............	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926............	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1927............	78.8	44.9	120.5	67.1	88.4	195.9	3.07	15.9	12.00	...	132.3	114.0
1927												
February.....	66.5	43.4	122.8	61.3	84.6	195.7	2.92	11.5	13.64	...	134.1	109.0
March........	65.2	43.4	120.9	62.2	86.0	195.1	2.76	12.5	13.48	...	127.0	112.3
April.........	65.6	43.2	117.2	64.1	85.1	196.1	2.86	12.3	13.26	...	126.6	112.8
May..........	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	...	146.0	118.9
June..........	88.9	48.0	130.1	76.3	98.8	204.7	3.23	14.8	13.10	...	191.0	136.0
July..........	92.4	46.3	127.4	71.4	101.0	198.4	3.35	15.5	11.71	...	183.1	136.4
August.......	97.7	44.4	123.5	69.0	98.1	203.7	3.45	17.1	9.97	...	146.3	146.7
September....	95.3	43.9	119.2	69.5	92.3	197.1	3.26	22.5	10.51	...	107.4	121.9
October......	87.6	44.6	113.7	66.8	82.9	191.2	3.08	21.0	10.63	...	97.9	98.1
November.....	73.7	45.1	111.4	66.8	79.4	184.2	2.95	20.0	10.54	...	95.4	86.5
December....	75.1	48.1	113.9	71.5	81.0	185.3	3.01	18.7	10.55	...	94.1	91.9
1928												
January......	75.2	49.3	115.2	73.6	82.0	188.4	3.11	18.6	10.60	...	93.6	93.4
February.....	79.0	51.3	116.2	75.4	86.2	189.9	3.44	17.0	10.24	...	96.2	98.6

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914.........	112	101	98	82	107	78	100	85	95	115	100	99
1915.........	112	113	128	93	113	93	127	72	89	85	75	94
1916.........	117	109	133	107	122	118	188	109	88	121	149	91
1917.........	218	159	229	174	210	167	323	173	112	242	273	138
1918.........	232	192	231	202	243	212	274	238	152	136	166	169
1919.........	242	174	244	171	214	238	195	239	173	183	200	173
1920.........	223	200	255	195	222	214	181	259	178	212	358	201
1921.........	89	90	135	82	150	89	126	100	109	138	149	136
1922.........	90	90	117	81	122	122	164	152	98	215	139	120
1923.........	124	104	112	91	130	140	177	215	103	166	121	119
1924.........	141	119	126	110	141	129	158	216	111	151	125	156
1925.........	155	111	172	115	142	145	174	179	105	186	166	196
1926.........	108	97	154	90	117	123	140	122	109	...	267	178
1927.........	122	113	137	109	121	116	136	128	101	...	190	130
1927												
February...	112	110	138	96	119	115	132	94	114	...	204	131
March.....	108	108	136	99	122	112	127	101	112	...	190	128
April.......	106	107	132	100	118	113	131	99	110	...	186	121
May.......	113	110	137	105	121	117	130	110	108	...	210	122
June.......	131	115	143	118	131	117	140	117	106	...	275	142
July.......	134	111	146	116	128	119	146	122	98	...	246	149
August.....	138	111	145	120	126	119	150	137	86	...	165	152
September..	130	112	136	118	124	115	142	184	90	...	134	131
October....	125	114	130	111	114	114	136	174	91	...	141	115
November..	116	117	127	111	111	114	132	165	91	...	159	113
December..	129	124	132	118	114	120	131	153	85	...	155	127
1928												
January....	129	128	132	120	116	116	138	151	90	...	149	119
February...	133	130	130	118	120	111	155	139	85	...	146	118

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.85	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1927												
February	99	77	21.1	29.0	43.7	68.22	6.60	10.10	7.16	10.84	31.1	11.19
March	100	79	21.3	20.8	43.5	70.18	6.82	10.10	7.41	11.55	31.3	10.89
April	104	80	21.8	20.3	43.4	71.98	7.13	9.90	7.40	11.97	30.4	10.41
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41
June	140	80	20.2	17.8	40.4	74.19	7.08	9.46	7.27	11.95	30.2	8.40
July	144	80	19.9	20.7	40.3	74.15	7.13	9.82	7.16	11.44	30.7	8.58
August	136	80	19.7	23.4	40.3	74.24	7.21	10.37	7.13	11.15	31.2	9.24
September	131	78	19.4	29.4	41.7	76.10	7.42	10.78	7.06	11.14	31.2	9.78
October	135	77	19.7	35.6	43.4	78.62	7.55	11.04	7.05	11.22	30.9	10.16
November	142	75	19.4	41.6	44.5	81.09	8.00	10.67	7.42	11.42	31.1	8.99
December	152	75	19.2	43.3	45.7	82.36	8.32	10.71	7.38	11.39	32.0	8.14
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1927												
February	96	54	194	110	161	143	129	149	157	182	168	157
March	92	55	190	97	168	144	129	146	155	186	167	147
April	91	55	190	119	171	146	130	146	146	185	169	137
May	93	56	184	119	170	147	130	142	155	185	169	130
June	114	55	171	107	172	149	130	140	153	190	173	117
July	141	56	167	124	176	151	134	146	157	188	175	118
August	172	57	164	136	171	150	135	151	161	197	175	124
September	187	56	163	152	169	154	139	153	162	198	180	129
October	196	56	167	160	168	158	142	157	164	204	181	138
November	196	55	170	163	167	162	154	154	174	209	181	129
December	197	55	178	144	161	165	159	155	169	201	185	121
1928												
January	167	55	183	129	159	176	168	160	163	196	179	111
February	163	57	184	111	161	181	171	167	167	200	186	107

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1927										
February	89	51	132	73	86	3.36	14.40	135	87	123
March	87	52	132	76	88	3.24	14.00	120	95	120
April	90	51	126	78	87	3.18	13.50	120	90	125
May	93	54	130	80	91	3.30	13.50	146	100	124
June	106	59	138	88	106	3.54	14.00	200	115	130
July	108	56	138	85	104	3.60	12.60	185	115	130
August	112	55	131	85	100	3.63	11.40	140	120	135
September	113	51	129	82	96	3.66	10.90	125	130	127
October	105	53	126	81	85	3.60	11.00	115	130	127
November	98	53	126	80	82	3.60	10.50	120	145	126
December	100	55	128	84	83	3.60	10.20	120	160	125
1928										
January	96	56	128	82	83	3.90	10.20	120	160	123
February	102	58	129	85	87	4.02	9.70	115	175	128

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1927										
February	125	109	132	97	119	144	95	196	100	70
March	123	111	132	99	124	140	90	176	106	68
April	127	104	126	101	119	139	88	174	87	69
May	127	108	130	101	121	140	86	203	88	70
June	141	116	135	110	138	151	86	286	117	72
July	142	110	137	109	124	149	79	268	131	74
August	145	108	136	110	123	148	77	159	174	76
September	140	104	134	108	126	148	72	140	210	72
October	133	113	130	108	115	148	72	167	213	72
November	127	115	130	107	114	149	70	214	223	72
December	133	117	131	112	115	148	67	188	216	71
1928										
January	133	124	129	109	117	167	67	188	198	71
February	144	123	129	113	121	172	64	167	201	73

NEW YORK
Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	43.2	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1927												
February	26.0	40	36.3	51	2.72	97.00	12.70	5.90	5.60	11.60	36	12.10
March	27.0	27	31.3	51	2.65	100.00	12.20	6.00	6.20	12.20	33	11.60
April	27.7	26	30.9	51	2.49	106.00	11.80	6.00	6.30	12.50	33	11.50
May	27.3	26	29.6	50	2.27	109.00	10.90	6.60	6.20	12.90	33	10.70
June	26.6	25	30.1	48	2.18	113.00	10.80	6.60	6.80	12.60	31	10.00
July	24.6	28	34.9	48	2.29	113.00	11.60	6.20	6.00	12.20	33	9.60
August	24.5	32	43.3	47	2.47	114.00	12.10	6.30	5.60	11.70	34	10.00
September	24.8	40	52.3	49	2.80	113.00	12.80	6.60	5.70	11.60	35	10.60
October	23.9	48	64.5	50	2.93	117.00	13.20	6.80	5.60	11.20	35	10.50
November	24.2	59	65.8	50	3.07	121.00	13.00	6.40	5.50	11.40	36	10.20
December	24.5	56	53.5	52	3.04	121.00	12.80	6.80	5.50	11.90	38	9.40
1928												
January	24.8	46	49.1	51	2.95	123.00	12.90	6.80	6.00	11.60	37	9.00
February	25.5	40	38.4	50		127.00	13.20	7.10	6.10	12.50	38	8.90

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1927	173	136	126	161	166	196	146	116	140	187	162	140
1927												
February	186	125	106	155	149	179	142	111	133	181	164	161
March	190	96	121	165	158	179	156	115	145	189	157	149
April	187	124	137	170	171	188	142	112	138	183	157	147
May	183	137	130	172	191	196	138	117	144	197	165	141
June	175	125	123	171	204	199	147	120	160	190	155	135
July	162	127	128	178	182	200	142	114	144	185	157	128
August	155	128	141	168	164	201	435	112	130	185	170	129
September	159	148	143	163	176	197	171	117	140	188	167	134
October	154	160	143	161	164	209	149	119	138	187	167	133
November	167	169	120	156	163	215	148	117	140	189	171	137
December	178	137	109	153	159	214	146	125	127	193	181	128
1928												
January	182	121	124	150	155	229	152	129	144	181	168	121
February	182	125	113	152		234	158	134	145	195	173	119

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29.18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40.33	44.09
1927												
February	37.93	38.65	35.00	40.81	35.13	36.63	36.00	51.68	41.50	79.80	38.89	42.55
March	37.09	38.65	33.20	40.52	34.65	36.40	35.70	50.60	42.75	76.80	38.65	41.97
April	37.44	35.54	32.25	41.00	35.50	36.23	35.88	51.90	41.63	76.80	37.86	41.68
May	41.86	36.50	37.40	44.72	35.80	36.10	37.00	52.48	43.78	76.80	39.74	43.71
June	45.63	42.25	40.50	43.40	33.94	36.63	.....	51.93	47.04	74.80	41.86	45.68
July	46.40	39.30	40.25	41.60	33.00	38.50	.....	51.80	46.31	80.30	40.65	46.44
August	48.72	38.58	43.50	41.22	34.00	42.10	.....	52.10	46.00	82.80	41.08	47.35
September	45.15	40.60	44.50	41.95	33.63	37.63	.....	52.30	47.10	81.30	41.31	45.11
October	42.29	41.10	41.38	42.48	33.38	34.50	36.88	52.30	47.63	84.80	40.95	43.91
November	42.47	41.30	39.70	43.66	35.75	36.25	37.20	51.50	49.80	79.80	41.76	43.87
December	43.30	41.98	43.50	46.08	37.81	37.63	38.69	51.80	52.23	79.80	43.31	44.81
1928												
January	42.92	43.60	42.40	46.34	38.70	38.60	39.80	53.30	54.80	76.80	44.31	44.56
February	45.13	44.60	42.00	47.08	40.75	40.81	40.81	54.55	55.85	75.80	45.56	45.86

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1927												
February	138	126	126	128	134	140	133	149	129	153	131	135
March	139	132	125	128	133	140	132	152	134	147	133	134
April	135	127	122	127	138	141	135	155	128	147	132	132
May	146	133	137	137	142	141	141	159	134	147	139	137
June	160	153	147	131	146	147	...	162	143	143	148	144
July	157	149	146	124	141	149	...	160	140	153	144	144
August	154	131	146	124	137	154	...	151	134	158	137	145
September	138	133	142	130	136	139	...	148	138	154	136	137
October	137	143	140	137	141	134	141	152	149	159	142	136
November	141	145	138	140	149	144	143	151	158	149	146	138
December	150	142	155	148	153	148	146	151	166	149	149	141
1928												
January	156	144	152	149	149	148	148	154	167	148	150	143
February	165	146	152	148	155	156	151	157	174	145	154	146

(Continued from page 859)

The average distance to the towns where each of the 70 commodities is usually bought by these families varies from 4 and 5 miles for the various groceries to 17 miles for women's coats, silk dresses, and wool dresses. Furnishings are bought at an average distance of 10 or 11 miles. Minor articles of men's and children's clothing are bought in villages or cities from 6 to 9 miles away, but in general the more expensive articles of clothing for all members of the family are bought at a distance of 10 or more miles.

About two-thirds of the families lived less than 4 miles from the nearest buying center which was mentioned on their questionnaires.

Of the 325 families whose replies were tabulated, 70 per cent reported buying one commodity or more by mail order. The mail order house is customarily patronized by more than one-third of the families for underwear for the women, the older girls and boys, and the children between 2 and 6 years, and for sheets, blankets, table cloths, and sewing machines, table 2.

TABLE 2.—RELATIVE IMPORTANCE OF MAIL ORDER BUYING BY FARM FAMILIES. NEW YORK STATE, 1927*

Commodities	Percent of families buying by mail order
14 *Commodities* Women's underwear (37), stockings (31), corsets (34), and house dresses (31); children's underwear (under 2 years) (33), (2-6 years) (39), and stockings (31); girls' underwear (34), and boys' underwear (36), cotton prints (33); sheets (37), blankets (38), and table cloths (34); sewing machines (37).	34.6
14 *Commodities* Women's silk dresses (25), and wool dresses (25); children's coats (24), and wash dresses and suits (30), girls' dresses (30), stockings (26), and coats (28); boys' shirts (25), men's underwear (30), socks (28), overalls (26); wool dress goods (30), cotton afternoon dress goods (29); rugs and carpets (25).	27.1
14 *Commodities* Women's coats (23), and shoes (21), children's shoes (24), girls' hats (21) and shoes (20), boys' coats (20), suits (22), and shoes (21); men's shirts (23), ranges (23), linoleum (23), baby carriages (21), living room chairs (21) and kitchen chairs (20).	21.7
14 *Commodities* Women's hats (16); boys' caps (13); men's shoes (16), suits (13), overcoats (11), and hats (7); rubbers (12) and rubber boots (12), mattresses (18), dining-room tables (19), refrigerators (19), bedsteads (17), dressers and chiffoniers (18), heating stoves (18).	14.5
14 *Commodities* Soap (3), tea and coffee (1), oranges (0), flour (0), bread (0), sugar (0), butter and butter substitutes (0), cereal breakfast foods (0), navy beans (0), fresh meat (0), fresh fish (0), cured meat (0), canned salmon (0), kerosene (0).	0.3

*Records of those families who reported buying the commodity in one center, only, are included.

Groceries are not bought by mail order by the families who answered the questionnaire; and only to a relatively limited extent is mail order buying practised for women's hats, men's and boys' hats, men's overcoats, suits, and shoes, rubbers and rubber boots, dining tables, refrigerators, bedsteads, dressers, and heating stoves.

Women's hats are bought by mail order by 16 per cent of the families, while men's hats are bought in this way by only 7 per cent of the families. A slightly higher percentage of families (21 per cent) buy women's shoes by mail order, than men's shoes (16 per cent).

HELEN CANON

INDEX NUMBERS OF PRICES PAID TO FARMERS IN DIFFERENT PARTS OF NEW YORK STATE

Altho the index numbers of farm prices for the United States is the best single measure of the economic status of farmers, it is of necessity an average of many large regions. The index number of prices for New York State is the best measure of the economic status of New York State farmers, but it, too, is an average of many different districts and different types of farming within the State. In order to analyze intelligently the problems of New York State agriculture, the State has been divided into six major districts for studying the major types of farming.

These six major districts are, (1) the fluid milk district of eastern New York, including Chenango, Delaware and Herkimer counties; (2) the dairy and cash crop district of central New York, including Cortland, Madison, Oneida and Onondaga counties; (3) the cheese district of northern and western New York, including Jefferson, St. Lawrence, Allegany and Cattaraugus counties; (4) the cash crop district of western New York, including Genesee, Livingston and Ontario counties; (5) the fruit district along Lake Ontario, including Niagara, Orleans, Monroe and Wayne counties.

TABLE 1.—RELATIVE IMPORTANCE OF THE SALE OF FARM PRODUCTS IN VARIOUS DISTRICTS OF NEW YORK STATE*

Product	Fluid milk district of eastern New York	Dairy and cash crop district of central New York	Cheese district of central and western New York	Cash crop district of western New York	Fruit district along Lake Ontario	New York State‡
Corn						0.2
Oats			0.3	0.3		0.2
Wheat		1.0		8.3	6.1	3.3
Barley						0.1
Rye						0.5
Buckwheat		0.5	0.5	0.4		1.3
Beans			0.8	14.6	5.5	0.9
Hay	3.1	3.1	3.5	3.4		7.9
Potatoes	2.3	9.7	5.3	14.7	9.0	7.9
Butter	4.3	3.4	5.3	4.7	3.7	2.3
Eggs	8.0	8.8	6.7	7.7	8.8	6.6
Chickens	0.8	1.0	0.7	1.0	1.1	2.1
Hogs		0.7	0.8	1.0	1.3	4.2
Beef cattle	9.7	8.1	9.2	4.9	3.7	5.8
Veal calves	4.5	3.7	4.3	1.9	1.5	4.0
Sheep				0.8	0.5	0.4
Lambs				4.4		1.2
Wool				1.1	0.5	0.4
Apples		1.0		2.2	32.5	7.4
Peaches					8.4	
Cabbage	0.9	4.6	—	8.2	4.5	1.0
Onions						0.8
Fluid milk	66.4	54.4	12.5	20.4	12.9	41.5
Cheese factory			50.1			
Total	100	100	100	100	100	100

*The weights for the five districts are based on sales of farm products as reported by the 1925 census; those for New York, 1920 census.

‡Warren, G. F., Prices of Farm Products in New York. Cornell University Agricultural Experiment Station Bulletin 416, p. 52, January 1923.

The index numbers of farm prices for each district was based on the relative importance of the various farm products. The relative importance of the various farm products is given in Table 1. Fluid milk makes up 66.4 per cent of the total for the fluid milk district, whereas it is only 54.4 per cent in the dairy and cash-crop district, and only 20.4 per cent in the cash-crop district.

The index numbers are summarized in Table 2. The changes in prices for New York State reflect the major changes in most of these districts. Prices of farm products in the cheese district did not rise as much during inflation, and during the past 7 years have been much lower than in the other districts.

TABLE 2.—INDEX NUMBERS OF FARM PRICES IN NEW YORK STATE

Year	District					State
	Fluid milk, eastern New York	Dairy and cash crop, central New York	Cheese, northern and western New York	Cash crop, western New York	Fruit along Lake Ontario	
1910	103	100	101	98	102	101
1911	97	96	91	93	100	97
1912	100	103	105	107	98	101
1913	98	99	102	100	99	97
1914	102	102	102	102	102	103
1915	102	99	100	104	94	100
1916	113	121	118	144	122	116
1917	163	179	165	223	183	170
1918	192	190	182	208	181	186
1919	213	214	196	214	216	206
1920	215	224	183	228	217	217
1921	149	148	123	141	155	144
1922	130	131	125	137	148	134
1923	145	143	139	148	153	142
1924	128	126	115	135	136	128
1925	148	149	133	156	155	147
1926	153	162	141	168	155	156
1927	155	153	146	148	147	150

C. E. LADD

FARM TAXES IN NEW YORK

The index number of taxes levied on farm property in New York rose from 231 in 1925 to 234 in 1926. It has increased each year for six consecutive years. From the prewar period its trend has been decidedly upward.

TABLE 1.—INDEX NUMBERS OF FARM TAXES IN NEW YORK
1910-1914 = 100

	County	Town	School	State	All Farm Taxes
1910	93	78	89	...	82
1911	97	102	90	141	98
1912	98	99	99	225	101
1913	104	103	108	134	105
1914	108	119	115	...	113
1915	104	118	113	436	122
1916	116	132	120	...	123
1917	122	124	176	295	143
1918	124	135	166	287	146
1919	156	139	206	315	166
1920	183	170	205	817	198
1921	207	164	199	487	191
1922	209	179	196	430	197
1923	235	197	205	686	219
1924	225	202	219	530	220
1925	225	220	227	541	231
1926	233	232	230	356	234

The index number of farm taxes is composed of county, town, school, state and the insignificant court, stenographers', and armory taxes. The increase in 1926 is explained by increases in the index numbers of county, town and school taxes. County taxes rose from 225 in 1925 to 233 in 1926 and town taxes from 220 to 232. School taxes rose least. They were 227 in 1925 and became 230 in 1926. State taxes declined from 541 in 1925 to 356 in 1926.

Local taxes on general property influence the index of farm taxes much more than do state taxes. In 1926, county taxes were 21.4 per cent of the total farm taxes; town taxes 47.4 per cent; school taxes 27.1 per cent; and State taxes 3.4 per cent of the total.

M. SLADE KENDRICK

SOME FACTS CONCERNING THE PRODUCTION AND MARKETING OF NEW YORK STATE HONEY DURING 1926

(These data are from studies carried on by the department of Agricultural Economics and Farm Management, New York State College of Agriculture, in cooperation with the Division of Cooperative Marketing, Bureau of Agricultural Economics, United States Department of Agriculture.)

These data are from 175 New York State apiaries, located throughout the State, but mainly in the areas surrounding Auburn, Syracuse, Watertown, and a goodly share of Schoharie County. During 1926, these 175 apiaries, comprising a total of 23,043 colonies, produced 880,629 pounds of extracted honey, and 158,930 pounds of comb honey. The year 1926 was regarded by practically all beekeepers as decidedly an off season, with production hardly more than two-thirds of normal.

Honey Consumed at Home

A total of 166 out of 175 beekeepers reported the eating of 12,417 pounds of honey by their families. Assuming 4 members to the average family, this indicates a per capita consumption of approximately 18.7 pounds of honey for the year 1926. The range in consumption of honey per family was from 5 to 325 pounds of extracted honey; and from 10 to 200 pounds of comb honey.

Honey Fed to Bees

Sixty-nine beekeepers reported having fed 61,725 pounds of honey back to their bees during the fall, winter and spring of 1926-27, an average of 895 pounds per apiary. The bees appear to have been good customers for their own honey during 1926, a situation undoubtedly aggravated by the poor season.

Honey Purchased by Beekeepers for Resale

Only 28 out of 175 beekeepers bought honey during 1926 for purposes of reselling it. The total purchases of honey amounted to 177,450 pounds, of which 5,020 were comb honey and 172,430 pounds were extracted honey. All of the purchased honey came from five states, New York leading with 129,150 pounds or 72.79 per cent; Michigan next with 42,500 pounds or 23.95 per cent; followed by Iowa with 4,000 pounds, Ohio with 1180 pounds, and Pennsylvania with 620 pounds.

TABLE 1.—DISPOSITION OF COMB AND EXTRACTED HONEY SOLD FROM THE 1926 CROP AS REPORTED BY 175 NEW YORK STATE BEEKEEPERS

Methods of sale	Extracted honey		Comb honey	
	Pounds sold	Per cent of total	Pounds sold	Per cent of total
Direct to consumers at farm	107,651	10.8	38,106	25.5351
Direct to consumers in nearby villages or cities	45,823	4.6	3,653	2.4479
Direct to consumers by mail or express	121,811	12.23	10,763	7.2124
Direct to beekeepers for resale	64,530	6.48	8,500	5.6959
Direct to consumers at roadside stands	5,755	.58	1,020	.6835
Direct to consumers at fairs	3,085	.31	300	.2010
Direct to consumers at farmers' markets	900	.09	2,760	1.8495
Total, direct to consumers	349,555	35.09	65,102	43.6253
To local honey buyers or shippers	152,088	15.27	31,603	21.1774
To commission merchants and wholesalers in large cities	263,843	26.49	49,367	33.0811
Cooperatively to large cities	117,750	11.82	900	.6031
To honey peddlers	112,880	11.33	1,240	.8309
Unknown			1,018	.6822
Grand Totals	996,116	100.00	149,230	100.00

Disposition of New York State Honey

Totals of 996,116 pounds of extracted honey and 149,230 pounds of comb honey were definitely accounted for by these beekeepers as having been disposed of in various ways or styles of containers. (table 1).

Approximately 10.8 per cent of the extracted honey was sold direct to consumers at the farm, and 4.6 per cent was sold by house-to-house sales in nearby villages or cities (table 1). The direct to consumer by mail or express method accounted for 12.23 per cent of the extracted honey; sales to other beekeepers for purposes of resale 6.48 per cent; sales at roadside stands for 0.58 per cent, and relatively small quantities were sold at farmers markets in cities or villages, and at agricultural county or state fairs. Direct sales to consumers by one method or another thus accounted for 35.09 per cent of the sales of extracted honey.

Of the sales made through middlemen of the wholesaler type, local honey shippers or buyers handled 15.27 per cent of the extracted honey; commission merchants or wholesalers in large cities handled 26.49 per cent, and approximately 11.82 per cent were sold cooperatively and undoubtedly went to large cities. Middlemen thus acted as agents in the disposition of 53.58 per cent of the extracted honey sold.

Some beekeepers have established business relations with honey peddlers in distant areas. These peddlers, who ordinarily "peddle" honey from house to house, either buy honey in 60 pound tin cans and repack it in 5 pound tin pails or bargain with the beekeepers to supply them with honey already put up in 5 pound pails. In 1926, such peddlers furnished an outlet for 11.33 per cent of the extracted honey sold.

A much larger proportion of the comb honey seems to have been sold locally than of extracted honey (table 1). In all, 43.63 per cent of the comb honey sold went directly to consumers in one form or another.

Local honey shippers or buyers purchased 21.18 per cent of the comb honey, and 33.08 per cent were shipped to wholesale receivers or commission men in large cities. Only 900 pounds or .6 per cent of the comb honey was sold cooperatively. Definite data concerning the method of sale of 1018 pounds of comb honey were not available. In all, approximately 54.86 per cent of the comb honey was sold through middlemen.

Honey peddlers handled very little comb honey during 1926, taking only 1240 pounds or .83 per cent.

For both comb and extracted honey, of which a total of 1,145,346 pounds were sold by these 175 beekeepers, it appears that 36.2 per cent went directly to consumers, 53.74 per cent were sold by wholesale middlemen, and 9.96 per cent were disposed of to honey peddlers,—another type of middleman.

Sizes and Types of Packages Used

Twenty-one different sizes and three types of packages were used by these 175 beekeepers in selling 996,116 pounds of extracted honey during 1926, (table 2). It will be noted, however, that approximately 90 per cent of this honey was marketed in 3 sizes of containers,—the sixty pound or five gallon tin can, the five pound tin pail, and the 160 pound wooden keg. It will also be noted that approximately 97.9 per cent of all extracted honey was sold in the first eight sizes listed in Table 2, none of which held less than one pound of honey. If all of the remaining thirteen sizes of containers had been omitted, only 2.1 per cent of the extracted honey would have been involved. New York State beekeepers were apparently using a greater number of sizes and types of containers for honey than

TABLE 2.—VOLUME OF EXTRACTED HONEY SOLD IN VARIOUS TYPES OF CONTAINERS BY 175 NEW YORK STATE BEEKEEPERS, 1926

Size and type of container	Number of pounds	Per cent of total	Number of containers
60 lb. tin can	410,090	41.17	6,835
5 lb. tin pail	316,870	31.81	63,374
160 lb. keg, wood	170,703	17.14	1,067
10 lb. tin pail	36,325	3.65	3,632
16 oz. glass jar	15,937	1.60	15,937
36 lb. tin can	11,440	1.15	318
1 pt. glass jar	8,205	.82	5,470
1 qt. glass jar	5,551	.56	1,850
11 oz. glass jar	4,475	.45	6,509
8 oz. glass jar	4,037	.40	8,074
14 oz. glass jar	3,510	.35	4,011
12 lb. tin can	1,866	.19	156
5 oz. glass jar	1,488	.15	4,762
30 lb. tin can	1,450	.14	48
24 oz. glass jar	924	.09	616
2½ lb. tin pail	675	.07	270
32 oz. glass jar	472	.05	236
9 oz. glass jar	470	.05	836
12 oz. glass jar	400	.04	533
6 lb. tin can	250	.02	42
2 qt. glass jar	222	.02	37
Unknown	756	.08	
Grand Totals	996,116	100.00	124,613

seemed either necessary or economical. Retailers generally resent this situation because it forces them to carry a wide variety of sizes, the greater portion of which sell very slowly. It is likely that standardization on 5 ounce, 8 ounce, 16 ounce, pint or 24 ounce, 2½ pound, 5 pound, 60 pound and 160 pound containers will serve any need supplied by the other 11 sizes, and may result in lower costs per container.

Comb honey was sold in 3 types of containers:

(1) The 24-section, single-tier wooden case, which accounted for 125,260 pounds or 83.9 per cent of all comb honey sold.

(2) The individual single-section of comb, which constituted 22,970 pounds or 15.4 per cent.

(3) The 24-section, double-tier wooden case, which is decidedly unpopular in the eastern section of the United States and only constituted 1,000 pounds or .7 per cent of the comb honey sold.

Dealers in the eastern section of the United States favor the 20 or 24 section, single-tier wooden case, but a majority of them seem to prefer to have each section of comb wrapped in heavy waxed paper and placed in individual cartons.

Prices Received for Honey

The prices received per pound for honey in the popular sizes of containers varied somewhat with the method of disposal, (table 3).

TABLE 3.—COMPARATIVE PRICES RECEIVED BY PRODUCERS FOR EXTRACTED HONEY WHEN SOLD LOCALLY, BY MAIL OR EXPRESS, OR THROUGH WHOLESALE CHANNELS, NEW YORK STATE, 1926

	Average price received per lb. for clover honey		
Size of container	Sold locally	Sold by mail or express	Sold through wholesale channels
160 lb. keg	$ .10		$ .0767
60 lb. tin	.1087	$ .1179	.0972
12 lb. tin	.135	.225	.12
10 lb. tin	.1705	.1896	
5 lb. tin	.1813	.1934	.13
1 qt. glass jar	.2345	.2556	
1 pt. glass jar	.2624	.25	.2267
16 oz. glass jar	.2737	.2775	.2175
8 oz. glass jar	.34	.40	.366

The net prices received for honey sold by mail or express averaged slightly higher per pound than those received for honey sold locally. It is probable that mail or express customers are more eager buyers, are not so likely to haggle over the price, and are usually not well informed as to the price of honey in general. The mail or express price, for honey shipped directly from producer to consumer, was usually somewhat less than the price for which the same quantity of honey could be purchased at retail in large cities.

Local sales resulted in the next highest returns to producers while the lowest net prices per pound were usually received from honey sold through commission men or wholesale receivers, who handled honey in large quantities.

Considerable care should be used in interpreting these data. It is possible that the wholesale method of sale returns more per hour of labor to the beekeepers than either of the other two methods. This is most likely to be true where labor is scarce and there are other more remunerative opportunities for employment available, either on or off the farm. For those beekeepers who have considerable idle or less valuable time available, the mail or express method or the local sales method may yield better returns per hour. Data is lacking concerning the number of hours of labor necessary to market honey by these three methods. Local marketing or marketing by mail or express are probably equally time-consuming. Wholesale marketing, through commission men or wholesale receivers, seems likely to call for the least expenditure of time of all three methods.

Distribution of New York State Honey During 1926

Some data were obtained concerning the final disposition of the honey sold by these beekeepers. Many beekeepers simply stated that their outlets were in New York State towns and villages, while others were more specific. Fifty-four cities in thirteen states and Canada were specifically referred to as being outlets for New York State honey. (Table 4.)

TABLE 4.—APPROXIMATE DISTRIBUTION OF THE 1926 HONEY CROP BY 175 NEW YORK STATE BEEKEEPERS

City or state	Pounds sold	Per cent of total
New York City	338,819	29.6
26 other large cities in New York State	166,333	14.5
Smaller towns and rural districts in New York State	289,564	25.3
Catskill health resorts	5,000	.4
Total New York State	799,716	69.8
To mail or express customers in eastern United States	102,900	9.0
To 26 cities in R. I., Mass., Conn., N. J., Pa., Md., Fla., Ohio, Mich., W. Va., Ill., Wash., and Ontario, Canada	72,155	6.3
Destination unknown	170,575	14.9
Totals	1,145,346	100.00

New York State consumed practically 70 per cent of the honey produced by these 175 beekeepers. While New York City was the greatest individual market, taking 29.6 per cent, other cities as well as the villages and towns within the State actually furnished a larger total outlet for New York honey than New York City itself. Among the more important honey consuming cities in New York State were Schenectady, Buffalo, Albany, Rochester, Syracuse, Elmira, Poughkeepsie, and Watertown.

Outside of New York State, Pittsburgh was the outstanding market. Other important out of State markets were Philadelphia, Boston, Detroit, Cleveland, Chicago, Seattle (Washington,) and Brockville (Ontario, Canada).

It is impossible adequately to describe the territory covered by mail or express sales. Several beekeepers, utilizing this method of sale, claimed that their products went into every state in the Union.

New York State beekeepers apparently find it necessary to ship approximately half of their honey production to large cities where it competes with honey from all other States and several foreign countries. The data from this study would seem to contradict statements commonly made by leading honey producers in western States to the effect that "eastern producers have no marketing problem because they can sell all of their honey at home."

Commissions Paid for Selling Honey

The average commission charged for selling clover honey was 7.7 per cent of gross sales (freight deducted), and ranged from 2 to 10 per cent. The average commission charged for handling buckwheat honey was 8.0 per cent, with a range from 5 to 14 per cent.

The commission rate charged seems to have been dependent largely upon the quality of the honey and the bargaining powers of the parties concerned. One beekeeper succeeded in getting his clover honey sold on commission for 2 per cent; four beekeepers paid 5 per cent for the same service, five others paid 7 per cent, and nine paid 10 per cent. Five beekeepers had their buckwheat honey handled for 5 per cent; six for 7 per cent, eight for 10 per cent; and one beekeeper had to pay 14 per cent to have his honey sold.

The quality of honey offered for sale on the commission basis is said to be highly variable, ranging from very fine quality to very low grade honey that has begun to ferment and spoil. Some commission men insist that beekeepers ordinarily sell their best grades of honey locally and ship their poorer grades to the large cities on consignment. A need seems to exist for some sort of a standard commission rate based on definite grades. Some of the higher commission rates charged are probably due to better than average services. Some are probably also due to the frankly expressed reluctance of many commission houses to handle a commodity as troublesome or with such a slow turnover as honey.

M. P. Rasmussen

USE OF ELECTRICITY ON NEW YORK STATE FARMS

At the beginning of 1927, New York State had 35,600 farms served with central-station current.[1] A study of the records of 1787 farm users of electricity, including those who used individual plants as well as those who used central-station power, showed that two-thirds of these purchased current from central stations. If this relationship holds true for all farms, from one-fourth to one-third of the 188,000 farms of the state have electricity, either from central stations or from farm plants.

The 1787 farms were supplied with electricity by 78 private companies, by 10 municipalities and by farm plants. Of the 1181 who purchased current, 74 percent were located on electric lines between cities or villages, while the balance were on extensions built only to serve farm customers.

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[1] Report of the Rural Electric Service Committee 1926-1927, National Electric Light Association. Publication No. 267-43, Appendix A, p. 10, June 7, 1927.

The farms studied averaged 125 acres, of which 74 were tillable. The farms had an average of sixteen and one-half cows, three and one-third horses, and two hundred hens per farm. Of the farms, 522 had one tractor each, while 21 had two tractors each, and 600 reported 719 small gas engines. The farms are larger than the average New York State farm, and represent a cross section of the better farms of the state.

Electricity had been in use on the various farms for a period of from one to twenty years, with an average of five and one-third.

The average cost of wiring the premises was $258.74.

As a result of using electricity 215 farmers reported a total saving of 8608 days of labor. This average of 40 days per farm at $3.00 per day would pay the electric bill for nearly two years. In the household, two hundred sixty-seven reported an average saving of twenty-six days per year. In addition to these, many called attention to the convenience but did not attempt to estimate the amount of labor saved.

Household Use

The household use of electricity is shown in table 1. Electricity is used for motor power, heating elements, light and refrigeration. The electric iron was most widely used; on the 1181 farms there were 1063 electric irons. Vacuum cleaners and washing machines were next in importance. Three out of every four farms had a vacuum cleaner and an equal number had washing machines.

TABLE 1.—HOUSEHOLD APPLIANCES ON 1181 FARMS

Use	Number	Use	Number	Use	Number
Iron	1063	Stove	28	Dishwasher	5
Vacuum cleaner	795	Grill	23	Corn popper	4
Washing machine	775	Range	13	Radio	4
Toaster	218	Cooking	8	Mangle	4
Battery charger	128	Pad	33	Violet-ray lamp	3
Curling iron	74	Fan	23	Ice-cream freezer	2
Heater	69	Waffle iron	19	Vibrator	2
Percolator	46	Hot plate	18	Candling eggs	2
Sewing machine	38	Refrigerator	8	Water heater	2

In addition to the household appliances shown in table 1, one each of the following was reported: thermatic light, teapot, phonograph, radio-battery eliminator, piano, vaporing, moving pictures, floor polisher, coffee grinder, dryer, toy transformer and time clock.

Farm Use

TABLE 2.—NUMBER OF OUTLETS PER BUILDING

House	23.0	Hen house	6.2
Tenant house	12.0	Yard	1.5
Garage	1.8	Silo	1.1
Barn	8.9	Other buildings	3.5

The number of outlets per building for those reporting is shown in table 2. The largest number of outlets were in the house. The tenant house was second and the barn third. The number of outlets in the house, 23, was exactly the same as the number of the other outlets on the farm.

Electric water systems were found in 389 houses, 244 barns and 120 other buildings .Many farms of the state have gravity water systems. Many others have not yet replaced small gasoline engines.

TABLE 3.—NUMBER OF MOTORS USED FOR FARM WORK ON 1181 FARMS

Horsepower	Number	Horsepower	Number
⅛ or less	29	2	95
¼	252	From 2 to 3	6
From ¼ to ½	19	3	38
½	181	4	1
¾	41	5	20
1	124	From 5 to 10	7
From 1 to 2	44	10 or over	3

A total of 860 motors was used, ranging in size from one-sixteenth horsepower to twenty-five horsepower, table 3. Sixty per cent of the motors were less than one horsepower. The largest number, 29 per cent, were ¼-horsepower motors. The use to which these motors were put, regardless of their size, is shown in table 4.

TABLE 4.—UTILIZATION OF MOTORS ON 1181 FARMS

Use	Number	Use	Number	Use	Number
Milking machine	271	Hay hoist	9	Feed mixer	3
Shop	85	Cutting wood	9	Thresher	3
Separator	71	Cooling milk	6	Packing house	3
Churn	18	Dairy refrigeration	4	Stalk cutter	2
Fruit grader	18	Bottle filler	4	Spraying	2
Feed grinder	14	Ensilage cutter	4	Sheep shearing	2
Bottle washer	14	Corn sheller	4	Fanning mill	2
Clippers	11	Air pump	3	Miscellaneous uses	9

Milking machines were the most numerous of all motor uses, shown in table 4 and shop work was second. The miscellaneous uses included one each of the following: cherry pitter, stirring milk, filling spray tank, cutting beets, seed cleaner, circulating pump, coal loader, truck loader, and bottle capper. One rather unique use, seen since but not reported in the study, was trimming cabbage for market.

It is apparent that the use of electric motors is confined to the lighter tasks which frequently may be irksome. Motors have not been so widely used for heavy work, such as running ensilage cutters, threshing, cutting wood and the like. On the 1181 farms 166 farmers suggested they could use milk-cooling appliances; 130, feed grinding; 62, egg cleaning; 53, feed mixing; 30, heavy belt work; and 28, general shop work.

Poultry Lighting

There were 266 farms equipped to use electric lights for egg production and 95 per cent of them used this equipment during the three months, December, January and February; 80 per cent had lights during November and March, and 23 per cent in October and April. During the six months, May to September, little use was made of this equipment.

TABLE 5.—SEASONAL VARIATION IN NUMBER OF FARMS USING ELECTRIC LIGHTS FOR EGG PRODUCTION

Month	Number	Month	Number
August	4	January	266
September	17	February	257
October	62	March	212
November	213	April	62
December	264	May	3

Very few used lights in the afternoon only; some used them both morning and afternoon. The most common practice was to use them in the morning only. The length of the lighting period averaged 2.3 hours in the morning and 1.9 hours in the afternoon.

Cost of Electricity Used

The number of kilowatt-hours and the amount of the bill for the preceding year was given by 332 farms. During the year, these individuals used 229,594 kilowatt-hours and paid bills to the amount of $21,437.48. The average amount paid per kilowatt-hour was 9.34 cents.

TABLE 6.—MONTHLY VARIATION IN USE OF ELECTRICITY ON 332 FARMS

Month	Kilowatt-hours used	Amount paid	Month	Kilowatt-hours used	Amount paid
January	70	$6.54	July	45	$4.37
February	62	5.83	August	51	4.71
March	57	5.40	September	61	5.35
April	50	4.83	October	60	5.69
May	47	4.48	November	66	6.18
June	45	4.34	December	77	6.84
			Total	692	64.57

The monthly variation in the use of electricity on 332 farms is shown in table 6. The average farm used 692 kilowatt-hours and paid $64.57 for this current. During December and January, 70 or more kilowatt-hours of current were used. This declined gradually until only 45 kilowatt-hours were used during June and July. In the summer months the bill was $4.35 per month for electricity and in the winter, $6.69.

The rates varied from 5.75¢ to 20¢ per kilowatt-hour. The largest number of companies were paid from 8¢ to 11¢ per kilowatt-hour consumed. There are very few that received over 14¢ or under 6¢ per kilowatt-hour, figure 1.

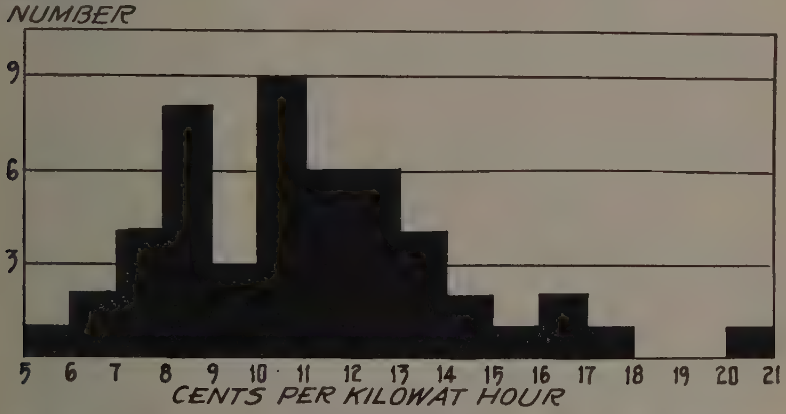

FIGURE 1.—NUMBER OF COMPANIES AND AMOUNT PAID FOR ELECTRICITY PER KILOWATT-HOUR

The amount paid varied from 5¾ cents to 20 cents per kilowatt hour. The largest number of companies were paid from 8 to 11 cents

The lines were financed entirely by the company in 653 of 1086 cases. None suggested that the size of their minimum bill had anything to do with getting their lines, but 181 made contributions of one kind or another, ranging from a cash payment of $25, to buying and setting the poles. The line was built by the farmers or at their expense and turned over to the company in 107 out of the 1086 cases. Stock was purchased to an amount approximating the cost of extension by 78 farmers. In 40 cases, the cost of building the line was paid by the farmers and rebated as they used the current. Giving the right of way for transmission lines was reported as a means of financing the line by 27 farmers.

Service and Limitations

Out of 975 farms, 709 reported no inconvenience from interruptions; 185, slight inconvenience; and 72 reported that some trouble was caused by storms but that such interruptions were of short duration. Only 9 reported interruptions lasting over twelve hours. One reported that the current frequently was off for a minute or two between four and six a. m. when he was milking. This allowed the teat cups to drop off and made it necessary to watch the machines very carefully.

Of the 464 farmers giving reasons for not using electricity more extensively; 127 reported that the cost of current was a limiting factor; 116, lack of funds; 97, cost of appliances. 92 reported that electricity was too expensive, referring either to the cost of current, the cost of appliances or the cost of installation; and 25 reported that motor-demand charges were limitations. Only 7 reported current interruptions as a reason for not extending the use of electricity. Apparently financial questions are most important in restricting the use of electricity on farms.

R. F. Bucknam

RETURNS ON DAIRY FARMS IN CHENANGO VALLEY, CROP YEAR 1925

A study of dairy farms in the Chenango Valley has been made for five consecutive years. Records for the fifth year ending April 30, 1926 were taken on 114 farms. The average size of the farms was 168.8 acres; of which 39 per cent was in crops, 53 per cent in pasture, and the remaining 8 per cent in woods, farmstead, fences and waste.

The average capital per farm was $15,950. Of this, 66 per cent was real estate, 24 per cent livestock, 10 per cent machinery.

There were 22.4 cows per farm. Of 2556 cows, 39 per cent were purebreds. Of the yearlings 56.6 per cent were purebred, and of the calves kept to be raised 50 per cent were purebred. This indicates that the Chenango Valley farmers are increasing purebred cattle.

Farm receipts amounted to $7,381 per farm. Livestock contributed 61 per cent of this amount, $3,427 from milk sales, and $990 from sale of livestock. Crop sales amounted to 25 per cent of the total receipts, and miscellaneous receipts 9 per cent, Table I. Of the $646 received from miscellaneous items, $453 came from the sale of eggs.

TABLE I. AVERAGE RECEIPTS PER FARM. CHENANGO VALLEY 1925-1926

	Average per farm	Per cent of total
Crops sold	$1,837	24.9
Livestock sold	990	13.4
Milk sold: Wholesale	3,419	46.3
Retail	8	0.1
Certificates of indebtedness	108	1.5
Miscellaneous	656	8.9
Increase in inventory	363	4.9
Total	$7,381	100.0

Farm expenses, other than livestock purchased amounted to $4,230. Feed amounted to 33 per cent of the total expenses and labor to 27 per cent. Livestock purchases amounted to $658 per farm.

The difference between receipts and expenses, other than interest on capital, was $2493 per farm. Deducting interest on capital at 5 per cent ($797) leaves a labor income of $1696 per farm. Twenty-one farms, or 18 per cent, failed to make interest, and 18 farms, or 16 per cent, had more than $3000 left after deducting interest.

The cost of keeping a cow amounted to $181.19, or $2.74 per 100 pounds of milk. Of this amount 47 per cent was for feed, 26 per cent for labor, and 5 per cent for hauling milk, Table II.

TABLE II. SUMMARY OF COSTS AND RETURNS FOR 2556 COWS, 1925-1926

	Total	Per cow	Per 100 pounds of milk sold wholesale
Costs:			
Concentrates	$123,937	$48.49	$0.74
Succulent feed	55,240	21.61	0.33
Dry forage	58,350	22.83	0.34
Pasture	19,570	7.66	0.12
Bedding	3,353	1.31	0.02
Human labor	113,794	44.52	0.67
Horse labor	8,338	3.26	0.05
Hauling milk	24,295	9.50	0.14
Use of buildings	15,801	6.18	0.09
Use of equipment	1,972	0.77	0.01
Interest on cows	17,846	6.98	0.11
Depreciation on cows	5,518	2.17	0.03
Bull service	6,701	2.62	0.04
Miscellaneous	8,401	3.29	0.05
Total	$463,116	$181.19	$2.74
Returns:			
Milk sold wholesale:			
Cash	$389,724	$152.48	$2.30
Certificates of indebtedness	12,268	4.80	0.07
Milk retailed and products sold	943	0.37	
Milk and milk products used on farm	23,037	9.01	0.14
Calves born during year	12,813	5.01	0.08
Manure	31,897	12.48	0.19
Miscellaneous	1,076	0.42	0.01
Total	$471,758	$184.57	$2.79
Gain	$ 8,642	$ 3.38	$0.05
Cow cost of producing milk	$393,350	$153.89	$2.33
Cow cost per pound of butter fat			$0.69

The cost of milk varied from $1.15 per 100 pounds of milk sold to $5.38. On 15 per cent of the farms the cost was less than $1.76 per 100 pounds; on 14 per cent, it was $3.26 or more.

The average receipts per cow were $184.57 or $2.79 per 100 pounds of milk. The net returns were $3.38 per cow or $0.05 per 100 pounds of milk.

Slightly less than two-thirds of the milk was produced in the winter months.[1] The highest production was in the months of May, June and July, immediately after the cows were turned out on pasture. During these three months 28 per cent of the milk was produced. The lowest production was in August, September and October, just before fall freshening.

Two factors contributing toward a high return per farm were:

1. Large acreage of cash crops;
2. Low cost of milk sold.

Climatic conditions for the crop year 1925 were favorable for spring crops. The yield of all crops was good, peas, spring grain, and corn being specially good. Prices were also favorable for such cash crops as peas, cabbage and potatoes.

The cost of milk is dependent upon high production per cow on the one hand, and low feed and labor bills on the other. Good feeding practices and efficient use of labor decreases the cost of producing milk and increases the net returns.

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[1] The winter period is usually from October 20 to May 15.

Comparing costs and returns on the 114 dairy farms with those on 121 poultry farms in New York State, it was found that dairy farms had about the same net return per farm as poultry farms. Receipts amounted to $7,381 on dairy farms, $7,527 on poultry farms. This slight advantage for poultry farms was lost in the higher expenses on poultry farms; $5,030 on the poultry farms to $4,888 on dairy farms. The feed bill on poultry farms was $2,634, on dairy farms only $1,354. The gross returns were $2,493 and $2,497 respectively on dairy farms and poultry farms, but poultry farms required more capital per farm, the interest was higher, and the labor income on poultry farms amounted to $1,654 while on dairy farms it was $1,696. Data are given in Table III.

TABLE III. COMPARISON OF AVERAGE RETURNS ON 114 CHENANGO COUNTY DAIRY FARMS AND ON 121 UP-STATE POULTRY FARMS

	114 Chenango County dairy farms	121 New York poultry farms
Year ended	April 30, 1926	Sept. 30, 1926
Receipts per farm:		
Milk and milk products	$3,535	$ 400
Poultry		1,571
Livestock	990	174
Eggs	453	4,141
Crops	1,837	663
Other receipts	566	578
Total	$7,381	$7,527
Expenses per farm:		
Feed	$1,354	$2,634
Labor	1,098	887
Other	2,436	1,509
Total	$4,888	$5,030
Farm income	$2,493	$2,497
Interest on capital (5 per cent)	797	843
Labor income	$1,696	$1,654

Prices of milk were not so favorable as prices of poultry products but the cash crops, especially peas, on dairy farms had a favorable year and made up the difference in income between the two types of farming.

J. C. NEETHLING.

PREMIUMS OF PRIME BEEF OVER MIDDLING BEEF ON THE LONDON CENTRAL MEAT MARKET, 1849-1925

The premium which prime-beef commanded over middling-quality-beef on the London Central Meat Market has varied widely in the last 77 years, Table 1 and Figure 1.

In 1850, prime beef on the London Central Market sold for 9¢ per pound and middling beef sold for 7.5¢ per pound; the prime beef commanded a premium of 20 per cent. In 1925, prime beef sold for 20¢ per pound and middling beef sold at 18.38¢; the premium for prime beef was 9 per cent.

From 1849 to 1880, the premium for prime beef was more or less stable, averaging 17 per cent. From 1880 to 1896, the premium rose from 18 to 32 per cent. In 1896, prime beef was at the highest premium in the 77-year period, 1849 to 1925. During the period from 1896 to 1914, there was a very striking decline in the premium for first-quality beef. The premium fell from 32 per cent in 1896, to 8 per cent in 1914, and finally to 3 per cent in 1917. During the years, 1918 to 1920, due to control of prices by the

Food Administration, these two classes of beef sold at the same prices. Since 1920, there has been a small premium on first quality beef, and this premium is increasing.

Comparisons of the percentage by which the price of prime beef was greater than the price of middling beef, with the purchasing power of wages and consols are shown in Figure 1.

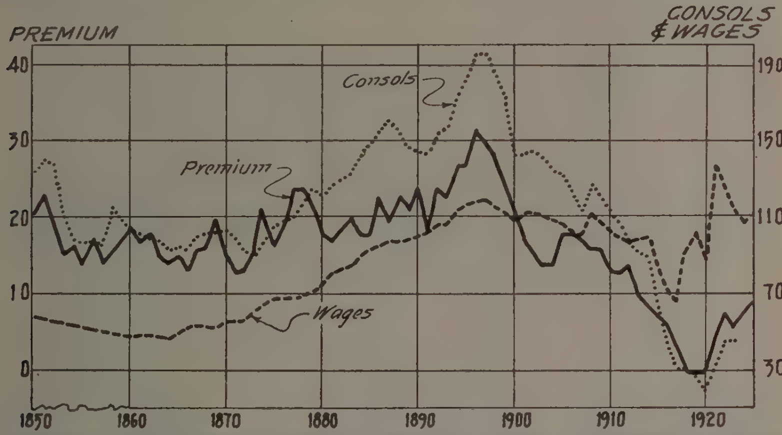

FIGURE 1. PURCHASING POWER OF WAGES AND OF BRITISH CONSOLS, AND PREMIUM FOR PRIME BEEF OVER MIDDLING-QUALITY BEEF ON LONDON CENTRAL MEAT MARKET, 1849–1925

From 1870–1896, falling prices and the rising purchasing power of wages and fixed incomes caused high-quality beef to command an increasing premium over middling-quality beef. From 1896 to 1920, prices rose more rapidly than wages or fixed incomes, and the premium on high-quality beef declined very rapidly.

Wholesale prices, as reported by the Sauerbeck and Statist Index, fell from 107 in 1880 to 74, in 1896. During this period, wages rose slowly. In 1880, wages were 81 when the five-year period 1910-14 is considered as 100. They rose gradually until in 1896 they were 88. Due to falling prices, the purchasing power of wages rose even more rapidly. It rose from 76 in 1880 to 119 in 1896. The purchasing power of the salaried class and those of fixed incomes, increased rapidly. The purchasing power of the price of consols is a barometer of the prosperity of the fixed-income classes. Between the years 1880 and 1896, the purchasing power of consols rose from 121 to 196, Table 1.

During the period of declining prices and the advancing purchasing power of the majority of English consumers, there was a greater demand for high-quality beef, which accounts for the relatively high prices of prime-quality beef. During this period, the premium on prime beef rose from 18 to 32 per cent.

From 1896 to 1915, there was a gradual advance in the general level of prices. Wholesale prices rose from an index of 74 in 1896 to 103 in 1914. As wages did not advance as rapidly as wholesale prices, the purchasing power of wages fell from 119 in 1896 to 100 in 1914. Even more striking was the fall in the purchasing power of the price of consols, which declined from 196 to 91. The premiums on first-quality beef declined from 32 per cent in 1896 to 8 per cent in 1914. As wages, salaries and many incomes increased comparatively slowly, it is probable that a great many English consumers could not afford to buy high-quality beef. This stimulated the demand for the poorer grades.

TABLE I. PRICES AND INDEX NUMBERS OF PRIME AND MIDDLING QUALITY BEEF ON THE LONDON CENTRAL MEAT MARKET

Year	Prices			Index numbers					Purchasing power					Per cent prime beef is of middling
	Beef*		British consols** £	Beef		British consols	Wages †	Prices **	Beef		British consols	Wages	Gold **	
	Prime ¢ per lb.	Middling ¢ per lb.		Prime	Middling				Prime	Middling				
1910–14	13.575	12.175	76.48											
1849	9.50	8.00	92.50	70	66	121		89	79	74	136		112	119
1850	9.00	7.50	96.50	66	62	126	54	93	71	67	135	58	108	120
1851	9.25	7.50	97.13	68	62	127		91	75	68	140		110	123
1852	9.25	7.75	99.38	68	64	130		94	72	68	138		106	119
1853	11.25	9.75	97.75	83	80	128		115	72	70	111		87	115
1854	12.50	10.75	91.88	92	88	120		123	75	72	98		81	116
1855	12.50	11.00	90.50	92	90	118		122	75	74	97		82	114
1856	12.00	10.25	93.13	88	84	122		122	72	69	100		82	117
1857	12.00	10.50	91.88	88	86	120		127	69	68	94		79	114
1858	11.75	10.25	96.88	87	84	127		110	79	76	115		91	115
1859	12.00	10.25	95.13	88	84	124		114	77	74	109		88	117
1860	12.50	10.50	94.00	92	86	123	58	120	77	72	103	48	83	119
1861	12.25	10.50	91.50	90	86	120	58	118	76	73	102	49	85	117
1862	11.50	9.75	93.00	85	80	122	58	122	70	66	100	48	82	118
1863	11.75	10.25	92.63	87	84	121	60	124	70	68	98	48	81	115
1864	12.50	11.00	90.13	92	90	118	60	127	72	71	93	47	79	114
1865	13.25	11.50	89.50	98	94	117	61	122	80	77	96	50	82	115
1866	13.25	11.75	88.00	98	97	115	65	123	80	79	93	53	81	113
1867	13.00	11.25	93.00	96	92	122	65	121	79	76	101	54	83	116
1868	12.50	10.75	93.88	92	88	123	63	120	77	73	103	53	83	116
1869	13.75	11.50	92.88	101	94	121	63	118	86	80	103	53	85	120
1870	13.75	12.00	92.50	101	99	121	65	116	87	85	104	56	86	115
1871	15.00	13.25	92.75	110	109	121	68	121	91	90	100	56	83	113
1872	14.75	13.00	92.50	109	107	121	75	132	83	81	92	57	76	113
1873	16.25	14.00	92.50	120	115	121	83	134	90	86	90	62	75	116
1874	15.50	12.75	92.50	114	105	121	80	123	93	85	98	65	81	122
1875	16.00	13.75	93.75	118	113	123	79	116	102	97	106	68	86	116
1876	15.50	13.00	95.00	114	107	124	78	115	99	93	108	68	87	119
1877	15.25	12.25	95.38	112	101	125	77	114	98	89	110	68	88	124
1878	15.25	12.25	95.18	112	101	124	74	105	107	96	118	70	95	124
1879	13.75	11.25	97.50	101	92	127	72	101	100	91	126	71	99	122
1880	14.50	12.25	98.38	107	101	129	81	107	100	94	121	76	93	118
1881	14.00	12.00	100.00	103	99	131	83	103	100	96	127	81	97	117
1882	15.00	12.75	100.50	110	105	131	84	101	109	104	130	83	99	112
1883	15.25	12.75	101.18	112	105	132	84	99	113	106	133	85	101	180
1884	14.50	12.25	101.00	107	101	132	83	92	116	110	143	90	109	118
1885	13.00	11.00	99.25	96	90	130	82	87	110	103	149	94	115	118
1886	12.25	10.00	100.75	90	82	132	81	84	107	98	157	96	119	123
1887	10.75	9.00	101.75	79	74	133	81	82	96	90	162	99	122	119
1888	12.00	9.75	101.00	88	80	132	83	85	104	94	155	98	118	123
1889	11.75	9.75	98.00	87	80	128	86	87	100	92	147	99	115	121
1890	11.75	9.50	96.50	87	78	126	88	87	100	90	145	101	115	124
1891	11.75	10.00	95.75	87	82	125	89	87	100	94	144	102	115	118
1892	11.75	9.50	96.75	87	78	127	88	82	106	95	155	107	122	124
1893	12.00	9.75	98.50	88	80	129	88	82	107	98	157	107	122	123
1894	11.75	9.25	101.00	87	76	132	87	76	114	100	174	114	132	127
1895	11.75	9.25	106.25	87	76	139	88	75	116	101	185	117	133	127
1896	11.25	8.50	111.00	83	70	145	88	74	112	95	196	119	135	132
1897	11.75	9.00	112.25	87	74	147	89	75	116	99	196	119	133	131
1898	11.50	9.00	111.00	85	74	145	90	78	109	95	186	115	128	128
1899	12.25	10.00	107.00	90	82	140	93	82	110	100	171	113	122	123
1900	12.75	10.50	99.63	94	86	130	98	91	103	95	143	108	110	121
1901	12.25	10.50	94.25	90	86	123	96	85	106	101	145	113	118	117
1902	13.50	11.75	94.38	99	97	123	95	84	118	115	146	113	119	115
1903	12.00	10.50	90.75	88	86	119	94	84	105	102	142	112	119	114
1904	12.00	10.50	88.25	88	86	115	93	85	104	101	135	109	118	114
1905	11.75	10.00	89.81	87	82	117	94	87	100	94	134	108	115	118
1906	11.75	10.00	88.31	87	82	115	95	93	94	88	124	102	108	118
1907	12.25	10.50	84.13	90	86	110	99	97	93	89	113	102	103	117
1908	13.00	11.25	86.06	96	92	113	99	88	109	105	128	113	114	116
1909	13.00	11.25	83.88	96	92	110	97	90	107	102	122	108	111	116
1910	13.50	12.00	81.09	99	99	106	97	94	105	105	113	103	106	113
1911	12.75	11.25	79.31	94	92	104	97	97	97	95	107	100	103	113
1912	14.00	12.25	76.16	103	101	100	100	103	100	98	97	97	97	114
1913	13.50	12.25	73.66	99	101	96	103	103	96	98	93	100	97	110
1914	14.13	13.13	72.18	104	108	94	103	103	101	105	91	100	94	108
1915	18.03	16.97	65.50	133	139	86	111	131	102	106	66	85	78	106
1916	20.31	19.19	58.01	150	158	76	121	165	91	96	46	73	62	106
1917	26.13	25.25	54.60	192	207	71	142	212	91	98	33	67	48	103
1918	25.75	25.75	56.88	190	211	74	219	233	82	91	32	94	44	100
1919	27.00	27.00	54.08	199	222	71	257	249	80	89	29	103	44	100
1920	31.25	31.25	47.02	230	257	61	267	304	76	85	20	88	44	100
1921	28.75	27.47	47.97	212	226	63	261	188	113	120	34	139	67	105
1922	22.16	20.50	56.47	163	168	74	201	159	103	106	47	126	69	108
1923	19.81	18.63	57.98	146	153	76	180	157	93	97	48	115	70	106
1924	20.53	19.03	56.38	151	156	74	182	169	89	92	44	108		108
1925	20.00	18.38	54.97	147	151	72	186	165	89	92	44	113		109

(For footnotes see next page)

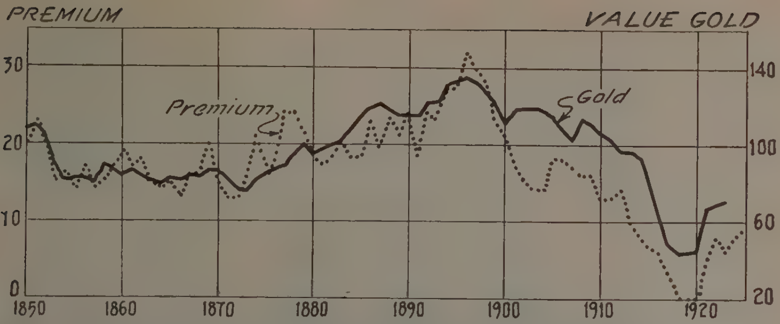

FIGURE 2. PREMIUM ON PRIME BEEF OVER MIDDLING-QUALITY BEEF ON LONDON CENTRAL MEAT MARKET, AND INDEX OF GOLD VALUES IN THE UNITED KINGDOM, 1850–1925

With a rise in the value of gold from 1870 to 1896, due to the fall in the general price level, there was a steady increase in the premium paid for prime beef over second-quality beef. With the decline in the value of gold from 1896 to 1920, the spread in price between first and second-quality beef decreased, owing to a decrease in the purchasing power of consumers.

During the same period the population increased more rapidly than the beef supply, which may account for a part of the rapidly decreasing premiums on first-quality beef.

During the period of inflation that accompanied the World War, the general price level rose from 103 in 1914 to 304 in 1920. The purchasing power of the wage-earners, salaried classes, and those with fixed incomes declined very rapidly. The purchasing power of wages fell from 100 to 88, and consols fell from 91 to 20. In consequence, the premiums gradually declined to 3 per cent in 1917, and disappeared, during the period of food control.

The value of gold in purchasing all commodities at wholesale may be used as a measure of the purchasing power of gold. It is the reciprocal of the price level.

After the fall in value of gold, from 1850 to 1854, the price level remained fairly stable until 1873. During the period from 1873 to 1896, the value of gold increased steadily, rising from 75 to 135. During this period, the general price level fell from 134 to 74. With the increased purchasing power of gold, the purchasing power of consumers increased, and they demanded a higher quality beef. The premium on first-quality beef over middling-quality beef rose from 16 to 32 per cent.

From 1896 to 1918, the purchasing power of gold declined steadily, from 135 to 44, and the premium which prime beef commanded over second-quality beef decreased from 32 per cent to 3 per cent in 1917.

According to Bowley,[1] the national income of the United Kingdom aggregated 2,284 million pounds in 1911. From his study, it was possible to make some rough approximations of the incomes of wage earners, salaried classes and those living on fixed incomes, and also those living on profits of trade, agriculture, rents of land and buildings, and the like. Apparently wages represent about 35 per cent of the income, salaries 17 per cent, fixed incomes 20 per cent and profits and the like 28 per cent. The great majority of the people derive their living from wages of labor, from salaries of teachers and government officials and from fixed incomes, such as pensions, returns from mortgages, government securities and overseas investments. This probably represents from two-thirds to three-fourths of the national income.

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[1] Bowley, A. L. The Division of the Product of Industry, p. 14, 1919.

(footnotes for tables)

*Sauerbeck, A. Wholesale prices of commodities. Journal of the Royal Statistical Society, vol. 49, part 3, p. 636; September, 1886, vol. 67, part, 1, pp. 94–95; March, 1904, vol. 57, part 1, p. 178, March, 1894; vol. 80, part 2, p. 304, March, 1917; and vol. 89, part 2, p. 294, March, 1926.

†Wages for 1850 were taken from Bowley, A. L. Wages in the United Kingdom in the XIX Century, Appendix 1, p. 132; those for 1860 to 1879, from Bowley, A. L., Tests of National Progress. Economic Journal, vol. 14, no. 55, p. 459, September, 1904; those for 1880 to 1897, from Labour Yearbook, p. 209, 1916; those for 1898 to 1920, from Bowley, A. L., Prices and Wages in the United Kingdom 1914 to 20, pp. 93, 106; and those for 1921 to 1926, from Pigou, A. C. Wage Policy and Unemployment. Economic Journal, vol. 37, no. 147, p. 367, September, 1927.

The index numbers of wages from 1880 to 1913, when 1900 = 100, are converted to the 1910–14 = 100 by dividing by 102.5. The index numbers from 1914 to 1926 when 1914 = 100 are converted to the 1910–14 level by multiplying by 102.7. The index numbers from 1860 to 1879 when 1901 = 100 are converted to the 1910–14 = 100 by multiplying by 96. The index numbers for 1850 when 1891 = 100 is converted to the 1910–14 = 100 by multiplying by 89.

**Warren, G. F. and Pearson, F. A. The Agricultural Situation, p. 263, 1924.

Changes in the general price level produce profound effects on the distribution of national income. During periods of falling prices, wage earners, salaried classes and those living on fixed incomes, receive more than their normal share of the income, at the expense of those who derive their income from other sources. Conversely, during rising prices, those living on profits from trade prosper at the expense of the wage earner, salaried class and receivers of fixed incomes. The value of gold measures very closely the trend of the premium on first quality beef.

K. A. H. Murray

VARIATIONS IN THE CONSUMPTION OF ICE CREAM

An extended study of the ice cream industry is being made by M. C. Bond. The following preliminary study of variations in consumption is based on some of the data obtained by him.

The consumption of ice cream in Buffalo, New York, showed a marked variation between the different seasons of the year, (table 1). Nearly one half of all ice cream sold during the year was consumed during the months of June, July and August. The three winter months accounted for 12 per cent of the sales and the spring and autumn months for 21 and 20 per cent, respectively.

The sales during July and August were only slightly higher than during June. The consumption was markedly uniform during the three winter months. The variation was greater in spring and autumn, about twice as much ice cream being consumed in May as in March.

TABLE 1.—MONTHLY SALES OF ICE CREAM, EXPRESSED AS PERCENTAGES OF YEARLY TOTAL, BUFFALO, NEW YORK, 1924-1926.

Month	1924 per cent	1925 per cent	1926 per cent	Average 1924-26 per cent
January	3.9	3.6	4.4	4.0
February	3.9	4.0	4.0	4.0
March	5.0	4.9	4.7	4.9
April	6.4	6.9	5.5	6.2
May	8.7	9.4	10.9	9.6
June	14.7	16.0	12.4	14.4
July	16.3	16.2	16.8	16.4
August	16.0	16.3	16.3	16.2
September	8.7	9.7	9.7	9.4
October	6.6	4.7	6.3	5.9
November	5.4	4.4	4.9	4.9
December	4.4	3.9	4.1	4.1
	100.0	100.0	100.0	100.0

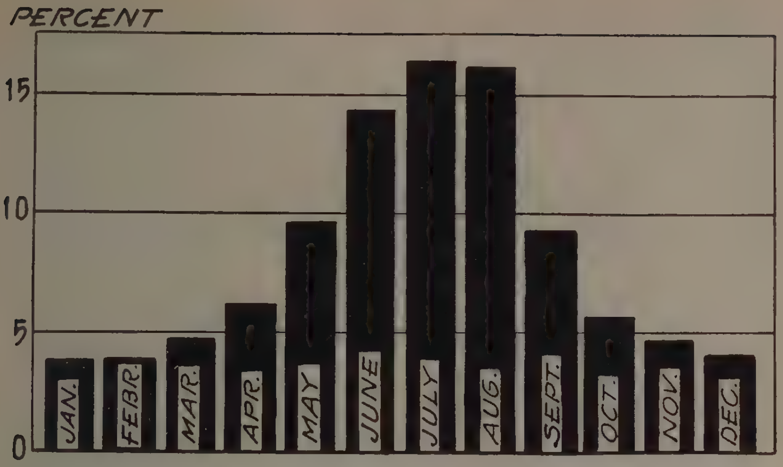

FIGURE 1.—PER CENT OF YEARLY SALES OF ICE CREAM BY MONTHS, BUFFALO, NEW YORK.

Sales are highest in summer and lowest in winter.

TABLE 2.—EFFECT OF TEMPERATURE ON DAILY SALES OF ICE CREAM, BUFFALO, NEW YORK, 1924-1926

	Temperature range Fahrenheit	1924 per cent	1925 per cent	1926 per cent	Average 1924-26 per cent
December, January, February..........	1°-20°	100	100	100	100
	21°-25°	97	103	112	104
	26°-30°	102	117	115	111
	31°-35°	102	130	134	122
	36°-40°	102	134	136	124
	41°-65°	116	185	150	150
March, November....................	15°-30°	100	100	100	100
	31°-35°	98	102	103	101
	36°-40°	111	126	96	111
	41°-45°	133	123	126	127
	46°-50°	133	135	111	126
	51°-55°	141	133	139	138
	56°-60°	154	125	142	140
	61°-70°	135	142	162	146
April, October........................	25°-40°	100	100	100	100
	41°-45°	154	93	97	115
	46°-50°	138	126	112	125
	51°-55°	165	127	104	132
	56°-60°	168	116	112	132
	61°-65°	194	158	116	156
	66°-85°	221	198	131	183
May, September.....................	41°-50°	100	100	100	100
	51°-55°	114	119	101	111
	56°-60°	129	152	111	131
	61°-65°	147	146	124	139
	66°-70°	125	197	163	162
	71°-75°	157	204	167	176
	76°-85°	189	204	149	181
June, July, August....................	46°-65°	100	100	100	100
	66°-70°	106	110	119	112
	71°-75°	138	147	152	146
	76°-80°	164	161	189	171
	81°-90°	162	173	190	175

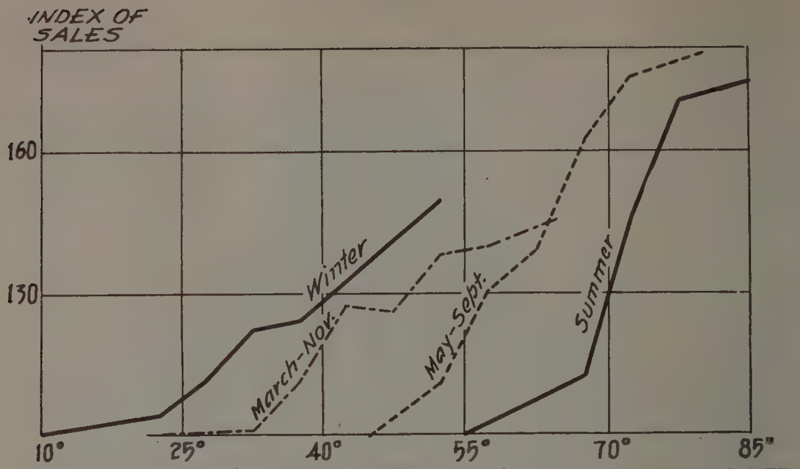

FIGURE 2.—EFFECT OF TEMPERATURE ON ICE CREAM SALES, BUFFALO, NEW YORK.

Changes in temperature have a greater effect on sales in summer than in winter. In winter, the greatest increase is above 40°, and in summer, above 70°.

With an increase in temperature there was a marked increase in the consumption of ice cream (table 2). A rise of 43 degrees in winter temperature, representing the difference between the coldest and warmest days, caused an increase in consumption of 50 per cent. A rise of 30 degrees in summer temperature effected an increase in sales of 75 per cent.

A change in temperature in winter had less effect on consumption than a corresponding change in summer. In the winter of 1925, a rise of 18° in temperature resulted in an increased consumption of 17 per cent, whereas a rise of 18° in summer was accompanied by a 47 per cent increase in consumption.

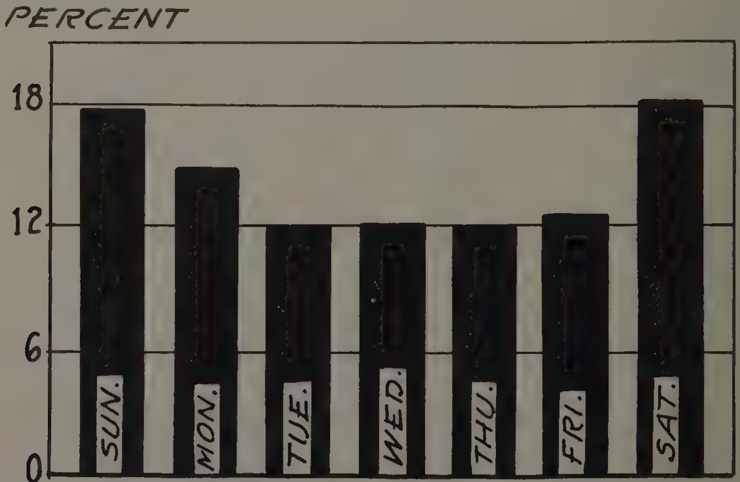

FIGURE 3.—DAILY SALES OF ICE CREAM EXPRESSED AS A PERCENTAGE OF WEEKLY SALES, BUFFALO, NEW YORK.

Sales are highest on Saturday and Sunday and lowest on Tuesday.

TABLE 3.—DAILY SALES OF ICE CREAM EXPRESSED AS PERCENTAGES OF WEEKLY SALES, BUFFALO, NEW YORK, 1924-1926.

Day	1924	1925	1926	Average 1924-26
Sunday	17.4	17.5	18.1	17.6
Monday	14.4	15.2	15.6	15.1
Tuesday	11.5	12.6	12.0	12.0
Wednesday	12.7	12.2	12.0	12.3
Thursday	12.3	12.3	12.0	12.2
Friday	13.1	12.8	12.2	12.7
Saturday	18.6	17.4	18.1	18.1
Total	100.0	100.0	100.0	100.0

Changes in temperature below 40° in winter and 70° in summer caused but a small variation in the consumption of ice cream. A rise of 5° above the winter temperature of 40° resulted in a sharp increase in the demand; a rise of 5° above the summer temperature of 70° caused sales to increase 34 per cent, and an additional rise of 5° resulted in a further increase of 12 per cent. Changes in temperature above 80°, however, had relatively little effect on consumption; apparently the saturation point had been reached.

Humidity and sunshine had practically no effect on the daily consumption of ice cream. Only a slight variation in sales was shown between the days of high and low humidity, and between the days of high and low sunshine.

The different days of the week showed a great variation in the demand for ice cream (Table 3). Of the average weekly sales, 18.1 per cent was sold on Saturday and 17.6 per cent on Sunday. Tuesday was the day of lowest sales, with 12 per cent. The other days of the week ranged from over 12 to 15.1 per cent.

The data represent wholesale sales and tend to magnify the importance of Saturday, thus not giving a true picture of the actual consumption on Saturdays and Sundays. Saturday sales to a certain extent anticipate the consumption on Sunday.

The relatively heavy sales on Monday, 15.1 per cent, are due to stocking up by retailers after the depletion of their supplies during the week end.

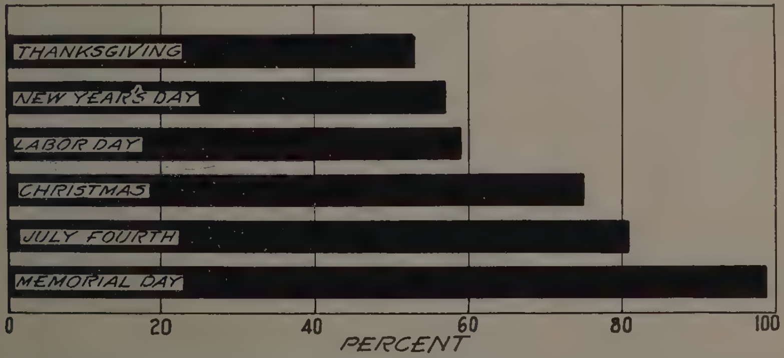

FIGURE 4.—INCREASE IN SALES OF ICE CREAM ON HOLIDAYS ABOVE THE AVERAGE OF THE WEEK, BUFFALO, NEW YORK, 1924-1926.

The greatest increase in sales occurs on Memorial day and July 4.

TABLE 4.—HOLIDAY VARIATION IN THE SALES OF ICE CREAM, BUFFALO, N. Y., 1924-1926

Date	Index of daily sales			
	1924	1925	1926	Average 1924-26
New Year's Day				
Average previous week	—	100	100	100
December 31	—	177	129	153
January 1	—	163	151	157
Memorial Day				
Average previous week	100	100	100	100
May 29	133	147	187	156
May 30	148	219	230	199
May 31	—	—	312*	—
July 4th				
Average previous week	100	100	100	100
July 3	121	144	179	148
July 4	185	186	173	181
Labor Day				
Average previous week	100	100	100	100
Sunday	173	125	90	129
Monday	140	178	152	159
Thanksgiving				
Average previous week	100	100	100	100
Wednesday	105	105	131	114
Thursday	176	114	169	153
Christmas				
Average previous week	100	100	100	100
December 24	155	117	154	142
December 25	205	142	177	175

* Fell on Sunday and was observed the following Monday.

TABLE 5.—EFFECT OF TEMPERATURE ON DAILY SALES OF BULK AND BRICK ICE CREAM, BUFFALO, N. Y., 1924-1926.

Temperature Fahrenheit	Bulk ice cream per cent	Brick ice cream per cent	Average sale per cent
December, January, February			
1°-20°	100	100	100
21°-25°	107	100	104
26°-30°	140	104	127
31°-35°	128	112	121
36°-40°	144	101	128
41°-65°	163	115	145
March, April, May			
11°-30°	100	100	100
31°-35°	111	107	109
36°-40°	134	99	121
41°-45°	155	117	141
46°-50°	188	122	169
51°-55°	227	115	187
56°-60°	272	125	220
61°-75°	358	167	292
June, July, August			
46°-65°	100	100	100
66°-70°	125	108	119
71°-75°	154	124	150
76°-80°	180	145	174
81°-90°	181	159	177
September, October, November			
25°-40°	100	100	100
41°-45°	116	128	118
46°-50°	135	121	131
51°-55°	142	111	133
56°-60°	164	108	148
61°-65°	215	121	188
66°-70°	304	141	259
71°-90°	367	168	315

TABLE 6.—EFFECT OF TEMPERATURE ON DAILY SALES OF BULK AND BRICK ICE CREAM, BUFFALO, N. Y., 1924-1926.

Temperature Fahrenheit	Bulk ice cream	Brick ice cream	Total
December, January, February	per cent	per cent	per cent
1°-20°	64	36	100
21°-25°	66	34	100
26°-30°	70	30	100
31°-35°	68	32	100
36°-40°	72	28	100
41°-65°	72	28	100
Average	69	31	100
March, April, May			
11°-30°	65	35	100
31°-35°	66	34	100
36°-40°	72	28	100
41°-45°	68	32	100
46°-50°	75	25	100
51°-55°	78	22	100
56°-60°	80	20	100
61°-75°	80	20	100
Average	75	25	100
June, July, August			
46°-65°	85	15	100
66°-70°	87	13	100
71°-75°	87	13	100
76°-80°	88	12	100
81°-90°	87	13	100
Average	87	13	100
September, October, November			
25°-40°	73	27	100
41°-45°	71	29	100
46°-50°	75	25	100
51°-55°	78	22	100
56°-60°	80	20	100
61°-65°	83	17	100
66°-70°	85	15	100
71°-90°	84	16	100
Average	80	20	100

TABLE 7.—AVERAGE DAILY SALES OF BULK AND BRICK ICE CREAM EXPRESSED AS PERCENTAGES OF TUESDAY'S SALES, BUFFALO, N. Y., 1924-1926

Day	1924		1925		1926		Av. 1924-26	
	Bulk	Brick	Bulk	Brick	Bulk	Brick	Bulk	Brick
Tuesday	100	100	100	100	100	100	100	100
Wednesday	109	115	96	99	95	99	100	104
Thursday	104	123	97	108	91	99	97	110
Friday	114	123	99	112	94	111	102	115
Saturday	165	184	133	152	146	172	148	169
Sunday	159	177	134	169	146	173	146	173
Monday	127	137	120	139	120	135	122	137

TABLE 8.—HOLIDAY VARIATION IN THE SALES OF BULK AND BRICK ICE CREAM BUFFALO, NEW YORK, 1924-1926.

Holiday and date	Bulk	Brick
New Year's Day		
December 30	100	100
December 31	150	222
January 1	134	258
Memorial Day		
May 28	100	100
May 29	156	170
May 30	203	207
July 4th		
July 2	100	100
July 3	185	147
July 4	228	203
Labor Day		
Saturday	100	100
Sunday	123	148
Monday	132	157
Thanksgiving		
Tuesday	100	100
Wednesday	156	243
Thursday	183	410
Christmas		
December 23	100	100
December 24	158	210
December 25	120	377

On all holidays there was a considerable increase in the consumption of ice cream over the previous week's average (Table 4). In anticipation of the holiday consumption, the day preceding the holiday also showed a decided increase in sales.

The increase was greatest on Memorial Day, 99 per cent, and July 4, 81 per cent. On the other holidays the increases were less pronounced, ranging from 53 per cent on Thanksgiving Day to 75 per cent on Christmas.

Ice cream seems to be a more important consideration on Christmas than on Thanksgiving or on New Year's Day.

With an increase in temperature, relatively more bulk ice cream was consumed than brick ice cream (Table 5). Between the coldest and warmest days in winter, the increase in bulk was 63 per cent, compared with 15 per cent in brick. In summer the increases were 81 per cent and 59 per cent for bulk and brick respectively. This indicates that the increased demand for ice cream was satisfied by the ice-cream parlors and other retailers who purchased mainly in bulk.

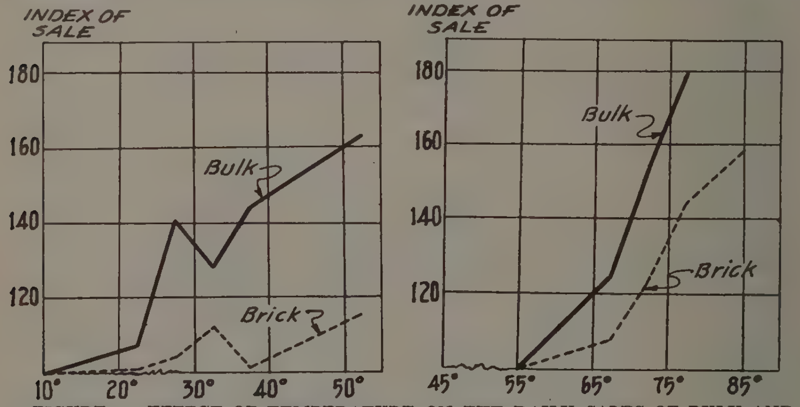

FIGURE 5.—EFFECT OF TEMPERATURE ON THE DAILY SALES OF BULK AND BRICK ICE CREAM, BUFFALO, NEW YORK.

In both winter and summer, changes in temperature are accompanied by greater changes in the sales of bulk ice cream than in the sales of brick ice cream.

Changes in temperature have a much greater effect on the sales of brick ice cream in summer than in winter.

Relatively more bulk ice cream was consumed in summer than in winter (Table 6). During the winter, 31 per cent of the ice cream sold was in the form of brick, whereas during the summer only 13 per cent was brick. In spring and autumn the brick sales were 25 and 30 per cent respectively.

The increase in the consumption of brick ice cream was relatively more than that of bulk during the week end (Table 7). On Sunday, the increase in brick sales was 73 per cent, compared with 46 per cent in bulk; on Saturday, the increases were 69 and 48 per cent respectively.

On holidays brick sales again showed a greater relative increase than bulk sales (Table 8). This is particularly marked at Thanksgiving and Christmas, two essentially home festive days, the increases in the consumption of brick ice cream being 227 per cent and 257 per cent, respectively, above those of bulk. On New Year's Day, brick sales increased 124 per cent more than bulk sales.

July 4 was the only holiday on which the bulk sales increased more than the brick sales, the difference being 25 per cent. This holiday is generally spent out of doors with a resultant greater consumption of bulk ice cream.

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FARM ECONOMICS

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No. 52 MAY, 1928

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	191	173	236	281	83
Sept., 1926	154	148	140	148	171	197	174	236	254	78
Oct.	152	140	134	148	171	196	174	237	246	81
Nov.	151	150	135	151	170	183	175	235	250	85
Dec.	150	145	133	150	169	185	176	238	256	87
Jan., 1927	150	142	130	145	171	194	175	237	252	96
Feb.	149	142	132	145	171	191	174	237	258	95
Mar.	148	142	131	142	172	193	173	240	261	90
Apr.	147	147	130	143	172	200	173	235	264	93
May	147	167	132	146	172	192	174	235	273	94
June	146	172	134	149	172	182	173	235	275	93
July	147	161	137	148	167	186	171	233	280	85
Aug.	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Jan., 1928	149	148	141	143	168	193	172*	236	318	89
Feb.	149	148	138	142	168	193		235	316	95
Mar.	149	149	141	143	168	192		239	327	90
Apr.		154*	145	148*					340	97

*Preliminary figure will be revised later.

(Footnotes continued on next page.)

FARM PRICES IN THE UNITED STATES

Farm prices in the United States rose from 141 in March to 145 in April. This advance of 4 points is due to a more or less general advance. The index numbers of prices of 14 products rose, 7 fell and 2 were stationary.

Eggs advanced 24 points; beans, 18; wool, 9; cotton, 7; corn, 6; oats and butter, 4; and potatoes, 3 points. Beef cattle declined 5 points. The other changes were small.

The April index number of farm prices was 15 points higher than a year ago. Only 4 products were cheaper in April, 1928 than in April, 1927. These were chickens, potatoes, hay, and hogs.

Prices of farm products are higher than they have been at any time in the past 7 years except for 4 months in 1925.

Some of the advances in price may be temporary. For instance, the striking advance in the price of wheat is due to the severe injury to the crop last winter, but many of the advances are more permanent. Prices of cattle and cattle products may be expected to continue high for several years, because low prices resulted in a great reduction in the number of animals.

Cotton production has been expanding during the depression, but demand has been good.

Food production has been declining while population has been increasing. Such a condition of affairs inevitably results in an improvement in the farm situation. The weather and other factors make the improvement so erratic that it is difficult to get a picture of the true situation without looking at the general trend.

Since 1922, wholesale prices of all commodities have been fairly stable. Prices of farm products rose until 1925, declined somewhat, and are now rising again.

Prices paid to farmers for food products are 5 points higher than they were a year ago. In March, food at retail was cheaper than a year ago. Probably retail prices will be materially higher in May.

The cost of distributing food remains practically constant at nearly double the pre-war figure.

If prices paid to farmers are to be as much above pre-war as retail prices are above pre-war, both farm and retail prices would have to be about equal to the cost of distributing food. Farming has increased in efficiency so much that the Agricultural Depression probably would be over if prices rose as high as the cost of living. The prolonged Agricultural Depression must ultimately result in a period of high-priced food.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities is converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20 ,1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February, 1927.

[4] Cost of assembling, transporting, processing and distributing food. For methods of calculation, see Farm Economics, No. 50, p. 830, Jan., 1928.

[5] The index numbers for December and June are those published by the United States Bureau of Labor Statistics. Intervening months bear the same ratio to these figures that Snyder's index for the intervening months bears to his figures for June and December. Both index numbers use 1913 as 100, but Snyder's shows that the five-year period, 1910-14, also averages 100.

[6] Data furnished by the Department of Labor of New York. Union wage rates, in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[7] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune.* The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[8] Data for prime comercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

Farm Prices in New York State

New York State farm prices for April were 54 per cent above pre-war, or 9 points above the average for the United States.

The very poor condition of the wheat east of the Mississippi river practically assures a high price for wheat in New York State this year.

Feed Prices

A large amount of feed has been required for the increased numbers of hogs and poultry in the country. Better prices for beef and dairy products have resulted in heavy feeding of cattle. The severe injury to the winter wheat crop has further affected feed prices. As a result, a dairy ration in April cost 67 per cent above pre-war prices. A year ago it could have been bought at 32 per cent above pre-war prices. The strong demand for feed promises to continue thruout next year. The major factor in determining what the supply will be is the size of the corn crop, which in turn, is primarily controlled by the June, July and August rainfall.

Many poultrymen are feeling the effects of the high-priced feed without a corresponding rise in the price of eggs. For several years, feed was very cheap compared with egg prices. Some persons planned their business expecting this ratio to continue. Feed is now high compared with the price of eggs. The poultryman who depends on purchased feeds must eliminate low-producing hens promptly.

G. F. WARREN and F. A. PEARSON

THE WEATHER AS A FACTOR IN MILK PRODUCTION

The work reported here is part of a study of the New York milk supply which is being made by the New York State College of Agriculture in cooperation with the New York Central Railroad.

The effect of unfavorable weather on the production of milk was shown in a striking manner last fall when a severe storm struck the New York milk shed the first week in November. The supply of milk, which was already low because of seasonal production, was cut to such an extent that a milk shortage was feared for two or three days.[1] An analysis of daily records obtained through the courtesy of the Dairymen's League Cooperative Association, Inc., shows that the production of milk followed rather closely the changes in weather from day to day.

The daily deliveries of milk by over 10,000 producers during the period of low production, and the average temperature reported by all Weather Bureau Stations in New York State, are shown in figure 1. Milk deliveries are lagged one day behind temperature and precipitation. A drop in temperature or a storm during this period resulted in a marked decrease in production. When the two unfavorable factors coincided, the decrease tended to be greatest. For example, the drop in production on November 4 and 5 amounted to 16 pounds, or approximately 10 per cent.

Temperature and precipitation together accounted for 54 per cent of all the variation in production during the period studied. Precipitation was apparently less important than temperature, accounting for but 8 per cent of the variation, compared with 46 per cent for temperature.[2] The area covered by the storm, as indicated by the percentage of stations reporting precipitation, appeared to be a more important factor than the amount of precipitation.

(Continued on page 897)

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[1] Farm Economics No. 50, p. 852, January, 1928.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
Average	64.8	39.9	88.0	61.7	73.3	168.8	2.26	12.4	11.94	112	69.6	87.6
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06	...	185.7	156.3
1927	78.8	44.9	120.5	67.1	88.4	195.9	3.07	15.9	12.00	...	132.3	114.0
1927												
April	65.6	43.2	117.2	64.1	85.1	196.1	2.86	12.3	13.26	...	126.6	112.8
May	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	...	146.0	118.9
June	88.9	48.0	130.1	76.3	98.8	204.7	3.23	14.8	13.10	...	191.0	136.0
July	92.4	46.3	127.4	71.4	101.0	198.4	3.35	15.5	11.71	...	183.1	136.4
August	97.7	44.4	123.5	69.0	98.1	203.7	3.45	17.1	9.97	...	146.3	146.7
September	95.3	43.9	119.2	69.5	92.3	197.1	3.26	22.5	10.51	...	107.4	121.9
October	87.6	44.6	113.7	66.8	82.9	191.2	3.08	21.0	10.63	...	97.9	98.1
November	73.7	45.1	111.4	66.8	79.4	184.2	2.95	20.0	10.54	...	95.4	86.5
December	75.1	48.1	113.9	71.5	81.0	185.3	3.01	18.7	10.55	...	94.1	91.9
1928												
January	75.2	49.3	115.2	73.6	82.0	188.4	3.11	18.6	10.60	...	93.6	93.4
February	79.0	51.3	116.2	75.4	85.2	189.9	3.44	17.0	10.24	...	96.2	98.6
March	86.2	54.5	121.6	79.4	90.2	194.8	3.86	17.8	10.19	...	113.2	109.6
April	91.9	56.9	129.2	81.3	94.8	198.4	4.26	18.7	10.29	...	116.8	115.1

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1927	122	113	137	109	121	116	136	128	101	...	190	130
1927												
April	106	107	132	100	118	113	131	99	110	...	186	121
May	113	110	137	105	121	117	130	110	108	...	210	122
June	131	115	143	118	131	117	140	117	106	...	275	142
July	134	111	146	116	128	119	146	122	98	...	246	149
August	138	111	145	120	126	119	150	137	86	...	165	152
September	130	112	136	118	124	115	142	184	90	...	134	131
October	125	114	130	111	114	114	136	174	91	...	141	115
November	116	117	127	111	111	114	132	165	91	...	159	113
December	129	124	132	118	114	120	131	153	85	...	155	127
1928												
January	129	128	132	120	116	116	138	151	90	...	149	119
February	133	130	130	118	120	111	155	139	85	...	146	118
March	142	136	137	126	128	112	177	144	85	...	169	125
April	148	140	145	126	131	115	195	151	85	...	172	124

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.85	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1927												
April	104	80	21.8	20.3	43.4	71.98	7.13	9.90	7.40	11.97	30.4	10.41
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41
June	140	80	20.2	17.8	40.4	74.19	7.08	9.46	7.27	11.95	30.2	8.40
July	144	80	19.9	20.7	40.3	74.15	7.13	9.82	7.16	11.44	30.7	8.58
August	136	80	19.7	23.4	40.3	74.24	7.21	10.37	7.13	11.15	31.2	9.24
September	131	78	19.4	29.4	41.7	76.10	7.42	10.78	7.06	11.14	31.2	9.78
October	135	77	19.7	35.6	43.4	78.62	7.55	11.04	7.05	11.22	30.9	10.16
November	142	75	19.4	41.6	44.5	81.09	8.00	10.67	7.42	11.42	31.1	8.99
December	152	75	19.2	43.3	45.7	82.36	8.32	10.71	7.38	11.39	32.0	8.14
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62
March	177	85	20.1	23.4	43.9	87.95	8.81	11.34	7.85	12.31	35.4	7.48
April	183	85	20.8	22.8	44.0	88.55	8.92	11.18	8.11	12.73	35.6	7.75

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1927												
April	91	55	190	119	171	146	130	146	146	185	169	137
May	93	56	184	119	170	147	130	142	155	185	169	130
June	114	55	171	107	172	149	130	140	153	190	173	117
July	141	56	167	124	176	151	134	146	157	188	175	118
August	172	57	164	136	171	150	135	151	161	197	175	124
September	187	56	163	152	169	154	139	153	162	198	180	129
October	196	56	167	160	168	158	142	157	164	204	181	138
November	196	55	170	163	167	162	154	154	174	209	181	129
December	197	55	178	144	161	165	159	155	169	201	185	121
1928												
January	167	55	183	129	159	176	168	160	163	196	179	111
February	163	57	184	111	161	181	171	167	167	200	186	107
March	163	59	179	109	169	180	167	164	164	198	189	101
April	160	58	181	133	173	179	162	165	160	197	198	102

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.80	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1927										
April	90	51	126	78	87	3.18	13.50	120	90	125
May	93	54	130	80	91	3.30	13.50	146	100	124
June	106	59	138	88	106	3.54	14.00	200	115	130
July	108	56	138	85	104	3.60	12.60	185	115	130
August	112	55	131	85	100	3.63	11.40	140	120	135
September	113	51	129	82	96	3.66	10.90	125	130	127
October	105	53	126	81	85	3.60	11.00	115	130	127
November	98	53	126	80	82	3.60	10.50	120	145	126
December	100	55	128	84	83	3.60	10.20	120	160	125
1928										
January	96	56	128	82	83	3.90	10.20	120	160	123
February	102	58	129	85	87	4.02	9.70	115	175	128
March	105	61	141	90	95	4.47	9.80	130	195	132
April	112	66	153	98	97	4.92	9.80	135	195	136

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1927										
April	127	104	126	101	119	139	88	174	87	69
May	127	108	130	101	121	140	86	203	88	70
June	141	116	135	110	138	151	86	286	117	72
July	142	110	137	109	124	149	79	268	131	74
August	145	108	136	110	123	148	77	159	174	76
September	140	104	134	108	126	148	72	140	210	72
October	133	113	130	108	115	148	72	167	213	72
November	127	115	130	107	114	149	70	214	223	72
December	133	117	131	112	115	148	67	188	216	71
1928										
January	133	124	129	109	117	167	67	188	198	71
February	144	123	129	113	121	172	64	167	201	73
March	148	130	141	117	134	194	63	191	217	75
April	158	135	153	127	133	216	64	196	189	75

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chick-ens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	43.2	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1927												
April	27.7	26	30.9	51	2.49	106.00	11.80	6.00	6.30	12.50	33	11.50
May	27.3	26	29.6	50	2.27	109.00	10.90	6.60	6.20	12.90	33	10.70
June	26.6	25	30.1	48	2.18	113.00	10.80	6.60	6.80	12.60	31	10.00
July	24.6	28	34.9	48	2.29	113.00	11.60	6.20	6.00	12.20	33	9.60
August	24.5	32	43.3	47	2.47	114.00	12.10	6.30	5.60	11.70	34	10.00
September	24.8	40	52.3	49	2.80	113.00	12.80	6.60	5.70	11.60	35	10.60
October	23.9	48	64.5	50	2.93	117.00	13.20	6.80	5.60	11.20	35	10.50
November	24.2	59	65.8	50	3.07	121.00	13.00	6.40	5.50	11.40	36	10.20
December	24.5	56	53.5	52	3.04	121.00	12.80	6.80	5.50	11.90	38	9.40
1928												
January	24.8	46	49.1	51	2.95	123.00	12.90	6.80	6.00	11.60	37	9.00
February	25.5	40	38.4	50	2.85	127.00	13.20	7.10	6.10	12.50	38	8.90
March	26.8	32	33.7	50	2.53	130.00	13.20	7.00	6.30	13.00	39	8.60
April	26.3	28	32.8	50		128.00	12.60	7.50	6.30	13.00	42	8.60

Index Numbers (corresponding months, 1910-14 = 100)

	Chick-ens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1927	173	136	126	161	166	196	146	116	140	187	162	140
1927												
April	187	124	137	170	171	188	152	112	138	183	157	147
May	183	137	130	172	191	196	148	117	144	197	165	141
June	175	125	123	171	204	199	137	120	160	190	155	135
July	162	127	128	178	182	200	142	114	144	185	157	128
August	155	128	141	168	164	201	143	112	130	185	170	129
September	159	148	143	163	176	197	147	117	140	188	167	134
October	154	160	143	161	164	209	149	119	138	187	167	133
November	167	169	120	156	163	215	148	117	140	189	171	137
December	178	137	109	153	159	214	146	125	127	193	181	128
1928												
January	182	121	124	150	155	229	152	129	144	181	168	121
February	182	125	113	152	157	234	158	134	145	195	173	119
March	189	114	130	161	151	232	158	135	147	201	186	111
April	178	133	146	167		227	163	140	138	191	200	110

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time. add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29.18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40.33	44.09
1927												
April	37.44	35.54	32.25	41.00	35.50	36.23	35.88	51.90	41.63	76.80	37.86	41.68
May	41.86	36.50	37.40	44.72	35.80	36.10	37.00	52.48	43.78	76.80	39.74	43.71
June	45.63	42.25	40.50	43.40	33.94	36.63	.....	51.93	47.04	74.80	41.86	45.68
July	46.40	39.30	40.25	41.60	33.00	38.50	.....	51.80	46.31	80.30	40.65	46.44
August	48.72	38.58	43.50	41.22	34.00	42.10	.....	52.10	46.00	82.80	41.08	47.35
September	45.15	40.60	44.50	41.95	33.63	37.63	.....	52.30	47.10	81.30	41.31	45.11
October	42.29	41.10	41.38	42.48	33.38	34.50	36.88	52.30	47.63	84.80	40.95	43.91
November	42.47	41.30	39.70	43.66	35.75	36.25	37.20	51.50	49.80	79.80	41.76	43.87
December	43.30	41.98	43.50	46.08	37.81	37.63	38.69	51.80	52.23	79.80	43.31	44.81
1928												
January	42.92	43.60	42.40	46.34	38.70	38.60	39.80	53.30	54.80	76.80	44.31	44.56
February	45.13	44.60	42.00	47.08	40.75	40.81	40.81	54.55	55.85	75.80	45.56	45.86
March	45.85	44.60	42.50	48.55	44.25	43.88	44.56	56.93	59.38	74.80	47.22	47.87
April	46.83	44.60	43.13	50.46	41.94	41.94	45.63	58.13	64.51	74.30	47.82	49.06

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1927												
April	135	127	122	127	138	141	135	155	128	147	132	132
May	146	133	137	137	142	141	141	159	134	147	139	137
June	160	153	147	131	146	147	...	162	143	143	148	144
July	157	149	146	124	141	149	...	160	140	153	144	144
August	154	131	146	124	137	154	...	151	134	158	137	145
September	138	133	142	130	136	139	...	148	138	154	136	137
October	137	143	140	137	141	134	141	152	149	159	142	136
November	141	145	138	140	149	144	143	151	158	149	146	138
December	150	142	155	148	153	148	146	151	166	149	149	141
1928												
January	156	144	152	149	149	148	148	154	167	148	150	143
February	165	146	152	148	155	156	151	157	174	145	154	146
March	172	152	159	153	169	168	164	171	186	143	163	153
April	169	160	164	156	163	163	172	174	198	142	167	155

(Continued from page 891)

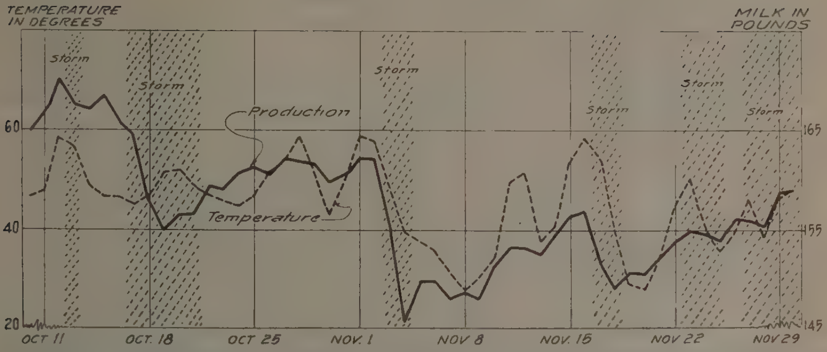

FIGURE 1.—AVERAGE DAILY TEMPERATURE IN NEW YORK STATE AND AVERAGE QUANTITY OF MILK PER DAIRY DELIVERED TO PLANTS THE FOLLOWING DAY, DURING THE SEASON OF LOW PRODUCTION IN 1927.

The production of milk follows changes in temperature closely. A drop in temperature, or a storm, causes a marked decrease in production.

It is probable that a drop in temperature or a storm during this period would have more effect on production than one later in the winter, after all the cows are stabled. At no other season, however, is the loss in production so important, because at that time, the New York market takes practically all of the available milk. It appears highly advisable, therefore, to keep cows in the barns on cold, stormy days if the feed they eat is to make milk, rather than to be used as fuel to maintain the body temperature under adverse conditions.

H. A. Ross

USE OF INDIVIDUAL FARM LIGHTING PLANTS IN NEW YORK STATE

Records were obtained from 605 farmers who used individual farm-lighting plants in New York State in 1926. Twenty-four of standard makes were included, as well as nineteen farm plants which were assembled by farmers who used engines, generators and batteries of different makes.

Of the 605 farmers, 57 were located on electric lines between cities or villages. The average distance of all farms to a low-tension electric line was 2.6 miles.

The average size of the farms studied was 146 acres, 77 of which were tillable. The farms had an average of 14.6 cows, 3.3 horses, and 237 hens, per farm. On the 605 farms there were 295 tractors and 569 small gas engines.

Electricity had been in use on the various farms for a period of from one to seventeen years, averaging five and one-third years.

The average cost of wiring the premises was $248.63.

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[2] The relation of milk production to these factors is indicated by the following partial and multiple coefficients of correlation and percent determination:

Factor	Partial correlation coefficient	Per cent determination
Maximum temperature	+0.692 ± .049	46.4
Percentage of New York stations reporting precipitation	−0.317 ± .084	8.3
Both factors		54.7
Multiple correlation coefficient	0.739 ± 0.042	

As a result of using electricity, 135 farmers reported a total saving equivalent to 3,184 days of labor, or 23.6 days per farm, (nearly 9 times the amount of time required to look after the plant). In the household, 174 reported an average saving equivalent to 34.5 days per year.

The household use of electricity is shown in table 1. The electric iron was most widely used. On the 605 farms, there were 385 electric irons.

TABLE 1. HOUSEHOLD APPLIANCES ON 605 FARMS

Use	Number	Use	Number
Iron	385	Pad	8
Washing machine	348	Refrigerator	4
Vacuum cleaner	285	Kitchen unit	2
Battery charger	43	Soldering iron	2
Toaster	29	Meat chopper	2
Fan	14	Heater	2
Curling iron	11	Range	2
Sewing machine	9	Percolator	2

In addition to the household appliances shown in table 1, two used electricity for cooking, and one each of the following uses was reported: violet ray, dishwasher, knife grinder, player piano, ice-cream freezer, mangle, vibrator, and floor polisher.

The number of outlets per building for those reporting is shown in table 2. The largest number of outlets were in the houses, with tenant houses second and barns third.

Electric water systems were found in 188 houses, 78 barns, and 32 other buildings.

TABLE 2. NUMBER OF OUTLETS PER BUILDING

House	20.8	Hen house	5.5
Tenant house	13.4	Yard	1.5
Garage	1.9	Silo	1.2
Barn	9.5	Other buildings	3.1

A total of 254 motors were used, ranging in size from one-eighth to three and one-half horsepower. Over half the total number were one-fourth horse-power motors. The uses of these motors, regardless of size, are shown in table 4.

TABLE 3. NUMBER OF MOTORS USED FOR FARM WORK ON 605 FARMS

Horsepower	Number	Horsepower	Number
1/8	15	1	4
1/6	44	1 1/4	1
1/4	128	1 1/2	5
1/3	8	2	1
1/2	34	2 1/2	1
5/8	1	3	3
3/4	8	3 1/2	1
		Total	254

Shop uses were the most numerous of motor uses, though not as numerous as the total uses in connection with the dairy, table 4. The miscellaneous uses include one each of the follwing: apple grader, hay hoist, corn-husker, saw, honey-extractor, and furnace blower.

TABLE 4. UTILIZATION OF MOTORS ON 605 FARMS

Use	Number	Use	Number
Shop	47	Fanning mill	5
Separator	40	Feed grinding	3
Milking machine	35	Bottle washer	3
Churn	30	Cutting feed	2
Clippers	8	Miscellaneous uses	6

There were 212 farms equipped to use electric lights for egg production. Ninety-five per cent of the farms used this equipment during December, January, and February, and 69 per cent during November and March.

TABLE 5. SEASONAL VARIATION IN NUMBER OF FARMS USING ELECTRIC LIGHTS FOR EGG PRODUCTION

Month	Number	Month	Number
September	2	January	212
October	34	February	205
November	148	March	152
December	202	April	58

Very few farms used lights in the afternoon only; 20 per cent used them both morning and afternoon. The most common practice was to use them in the morning only. The length of the lighting period averaged 2.4 hours in the morning and 2.0 hours in the afternoon.

The most common size of plant was 850 watts. Nearly one-third of the plants were from 801 to 1000 watts, table 6. Wattage and horse-power were not reported for the same plant.

TABLE 6. WATTAGE OR HORSE-POWER AND AMPERE-HOUR CAPACITY OF BATTERIES OF FARM LIGHTING PLANTS IN NEW YORK STATE

Size of plant				Battery capacity	
Wattage		Horsepower			
Watts	Number	Horsepower	Number	Ampere-hours	Number
190- 600	88	Under 1	21	Under 100	63
601- 800	52	1-1 ½	18	100-150	31
801-1000	104	1 ¾-2 ½	19	160	120
1001-1400	67	3-4	48	180-300	76
1401-4500	55	5-10	6	320-6000	13

The most common size of battery shown in table 6 is one of 160-ampere-hour capacity. Batteries having sixteen cells were reported in 523 of the 549 cases; 11 had thirty-two cells; 6 had fifty-six cells; and 3, twenty-four. The largest battery had 96 cells with a capacity of 6000 ampere-hours.

Thirty-two-volt plants were used by 546 farmers of the 573; 110-volt plants by 26 farmers; and one farmer had a 600-volt plant. Battery plants were used by 534 farmers, and automatic by 23.

Three hundred and forty-two farmers would purchase the same kind of a plant if they were to buy another, while 82 would have bought either some other or tried to obtain central-station current. Two who were using batteries would have changed to automatic, while one using automatic would have changed to a battery plant. A desire for a 110-volt plant was expressed by 20 individuals.

The cash cost of operation for a year was given by 303 farmers. About one-half of the plants were operated on kerosene, the others on gasoline, table 7.

TABLE 7. AVERAGE CASH COST OF OPERATING 303 FARM LIGHTING PLANTS IN 1926

	Amount	Cost
Gasoline	76 gallons	$15.72
Kerosene	75 gallons	13.09
Oil	28.6 quarts	6.23
Labor, expert, hired	1.8 hours	2.65
Repairs to engine and generator		3.57
Repairs to battery		2.01
Other cash costs		.78
Total		$44.06

No attempt was made to find the overhead costs of interest and depreciation, though farmers were asked to estimate the life of the various parts of the plant. According to these estimates the life of the battery was 6.4 years; the engine, 12.0 years; and the generator, 12.6 years.

In addition to the cash costs, which averaged $44.06 per farm, 26 farmers purchased new batteries, at an average cost of $166.46, table 7. The average plant owner spent 26.5 hours per year in taking care of the plant.

R. F. Bucknam

SOME FACTS CONCERNING THE RETAILING OF HONEY[1] IN ELMIRA, N. Y., 1926,

(These data are from studies carried on by the Department of Agricultural Economics and Farm Management, New York State College of Agriculture, in cooperation with the Division of Cooperative Marketing, Bureau of Agricultural Economics, United States Department of Agriculture.)

This survey included 65 retail food stores in the city of Elmira, N. Y., (population 48,359) and covered approximately one-third of all the retail food stores in Elmira. Data were obtained concerning the volume of honey sold during 1926 by 37 independent grocery stores, 24 chain grocery stores, 2 market stalls, 1 meat market, and 1 department grocery and meat market which is a branch of a chain system. Of the 37 independent grocery stores, 13 were members of a cooperative buying and advertising association which partook somewhat of the nature of a chain system. Chain stores constituted approximately 37 per cent; independent grocery stores, 57 per cent; market stalls, 3 per cent; meat markets, 1.5 per cent, and the department grocery and meat market, 1.5 per cent of the records obtained. The average volume of honey sold by these stores during 1926 was 583.64 pounds per store (table 1).

Five out of six of the chain grocery systems operating in Elmira were apparently selling about the same volume of honey as the independent stores (table 2). One chain system, however, sold less than one-quarter as much honey per store as the average of competing chain systems.

TABLE 1. AVERAGE VOLUME OF HONEY SOLD PER STORE BY DIFFERENT TYPES OF RETAIL STORES, ELMIRA, 1926.

Type of store	Number stores	Total lbs. of honey sold per store	Average lbs. of honey sold per store	Range in lbs. of honey sold per store
Department grocery & meat	1	14,500	14,500	——
Meat markets (Independent)	1	282	282	——
Market stalls	2	1,170	585	450-720
Unit grocery Stores (Independent)	37	15,732.75	425.21	12-2454
Chain stores	24	6,251.62	260.48	7.5-1132.5
Totals	65	37,936.37	583.64	7.5-14500.

TABLE 2. VOLUME OF HONEY HANDLED PER STORE BY 6 CHAIN SYSTEMS IN ELMIRA, N. Y., 1926.

System	Number of stores	Total lbs. honey sold	Average lbs. of honey sold per store	Range in lbs. of honey sold per store
Chain A	2	729	364.5	264-465
Chain B	12	855	71.25	7.5-210
Chain C	4	1317	329.25	120-495
Chain D	4	2663.62	665.9	504-1132.5
Chain E	1	327	327	——
Chain F	1	360	360	——
All	24	6251.62	260.48	7.5-1132.5

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[1] Mr. P. H. Stephens, a graduate student in the Department of Agricultural Economics and Farm Management, New York State College of Agriculture, assisted in this study.

Volume of Extracted Honey Sold

The average volume of extracted honey sold per store during 1926 was 415.7 pounds. Ten stores, or slightly more than 15 per cent, did not sell any extracted honey.

It will be noted that 31 stores, or almost one-half of those included, either did not sell extracted honey or sold on the average only a relatively small volume per store (29.9 pounds). The bulk of the extracted honey business was carried on by 34 stores, one of which sold more honey than all the other 33 combined.

Volume of Comb Honey Sold

About the same proportion of these stores dealt in comb honey as in extracted honey. Ten out of sixty-five reported no sales of comb honey during 1926. Thirty-four of these stores, however, either sold no comb honey or only a relatively small quantity.

The average number of pounds of comb honey sold per store was approximately 168 pounds. Only three stores sold over 500 pounds per store and only one store sold as much as 2,000 pounds. The volume of comb honey was approximately 28.8 per cent of the total volume of all honey sold.

Sizes and Types of Containers

Extracted honey was sold in 11 different sizes and two types of containers (table 3).

TABLE 3. SIZES AND TYPES OF CONTAINERS USED IN SELLING EXTRACTED HONEY, 65 ELMIRA RETAIL STORES, 1926

Size	Type of container	Total pounds sold	Pounds per store	Per cent of total
5 pounds	Tin pail	23,620	363.4	87.4
2-1/2 pounds	Tin pail	1,500	23.1	5.6
32 ounces	Glass jar	1,000	14.4	3.7
5 ounces	Glass jar	339.4	5.2	1.3
8 ounces	Glass jar	162	2.5	0.6
16 ounces	Glass jar	144	2.2	0.5
12 ounces	Glass jar	108	1.7	0.4
14 ounces	Glass jar	79.5	1.2	0.3
48 ounces	Glass jar	36.0	0.6	0.1
24 ounces	Glass jar	18.0	0.3	0.06
7 ounces	Glass jar	10.5	0.2	0.04

In point of volume sold, the five-pound pail was outstandingly the popular size, followed by the 2½ pound pail, and the 32-ounce bottle. The remaining sizes made up only 3.3 per cent of the total volume of extracted honey sold. Among the other sizes, the 5-ounce glass jar seemed the most popular, constituting 38 per cent of the 8 remaining sizes. From the point of view of individual sales, the 5-ounce glass jar, with 1086 sales, ranked second only to the 5-pound tin pail with 4724 sales.

Costs and Selling Prices

Neither cost nor selling price per container varied widely between stores for the different sizes, (table 4).

Comb honey was handled exclusively in 24-section, single-tier cases, and only 2 stores sold comb honey wrapped in individual cartons. The average cost of comb honey was 16.5 cents per section, and the average selling price of comb honey was 22.3 cents. The comb honey wrapped in individual cartons sold for 25 cents per carton, containing one section.

TABLE 4. AVERAGE COST AND SELLING PRICES FOR EXTRACTED HONEY IN VARIOUS SIZED CONTAINERS, 65 ELMIRA RETAIL STORES, 1926

Size and type of container	Average cost price per container	Average selling price per container
5 lb. tin pail	$0.475	$0.634
3 lb. glass jar	——	0.45
2 1/2 lb. tin can	0.25	0.33
32 oz. glass jar	0.30	0.475
24 oz. glass jar	——	0.35
16 oz. glass jar	0.235	0.314
14 oz. glass jar	——	0.35
12 oz. glass jar	0.15	0.22
8 oz. glass jar	0.159	0.21
7 oz. glass jar	——	0.137
5 oz. glass jar	——	0.138

Gross Margins

The gross margin taken on honey sales varied from 24.2 per cent to 36.8 per cent of gross sales, depending on size and type of container (table 5). It is evident that the cost to the consumer of honey in small packages is much higher than in large packages, and likewise the cost of honey in tin is considerably lower than in glass containers. Whereas the average price for extracted honey in 5-pound pails was slightly less than $.13 per pound, the same type and quality of honey cost the consumer $.42 per pound when purchased in 8-ounce glass jars. This is an increase of approximately 300 per cent. The percentage margin per container on sales in smaller quantities also tended to be slightly higher than on large quantities. Despite the alleged breakage and spoilage usually incident to the handling of comb honey, the percentage margin on comb honey did not average appreciably higher than that taken on extracted honey.

TABLE 5. GROSS RETAIL MARGINS ON HONEY SOLD IN VARIOUS SIZES AND TYPES OF CONTAINERS BY 65 RETAIL STORES, ELMIRA, N. Y., 1926

Size & type container	Average cost to retailer		Average cost to consumer		Gross retail margin		Per cent
	Per container	Per pound	Per container	per pound	Per container	Per pound	
Extracted honey							
5 lb. tin pail	$.475	$.095	$.634	$.1268	$.159	$.0318	25.1
2-1/2 lb. tin can	.25	.10	.33	.132	.08	.032	24.2
32 oz. glass jar	.30	.15	.475	.2375	.175	.0875	36.8
16 oz. glass jar	.235	.235	.314	.314	.079	.079	25.2
12 oz. glass jar	.15	.20	.22	.2933	.07	.0933	31.8
8 oz. glass jar	.159	.318	.21	.42	.051	.102	24.3
Comb honey							
Per section of 13.3 oz.	.165	.199	.223	.2683	.058	.0697	26.0

Approximately 87.4 per cent of all honey sold by these stores during 1926 was purchased directly from local or nearby producers; 12.6 per cent was purchased from wholesale grocers or jobbers.

Trend of Honey Business

Seventeen of these stores reported increased honey sales in 1926 as compared with 1925; 12 reported decreased sales, and 28 reported no change in volume of sales. This would not seem to indicate any outstanding change in volume of business.

Forty stores reported sales of corn syrup greater than honey and 25 the reverse. Only a few stores reported sales of cane syrup, but of these, 8 reported greater sales than honey, and 2 the reverse. Fifty stores reported greater sales of maple syrup than honey, and 15 the reverse. It is likely that both corn syrup and maple syrup are strong competitors of honey, with cane syrup relatively unimportant.

Advertising

Twenty-six of the 65 stores claimed to have done some advertising of honey during 1926. Only 13 of these, however, did any newspaper advertising, the remainder contenting themselves with posters and display cards. Thirty-nine stores did no advertising of honey at all.

An analysis of the volume of honey handled by the 13 stores that advertised in newspapers compared with the remaining 52, would seem to indicate that advertising is an important factor in selling honey (table 6).

TABLE 6. VOLUME OF HONEY SOLD BY ELMIRA RETAIL STORES WHICH ADVERTISED AS COMPARED WITH THOSE THAT DID NOT ADVERTISE, 65 ELMIRA RETAILERS, 1926

Group	Pounds of extracted honey sold		Pounds of comb honey sold	
	Total	Per store	Total	Per store
13 newspaper advertisers	18,927.5	1455.96	4,628	356
52 non-advertisers	8,089.9	155.57	6,291	121
65 Total	27,017.4	415.65	10,919	167.9846

Measurement of the effect of advertising probably constitutes one of the most difficult problems in merchandising. It is hardly likely that all of the increase in the volume of honey sold by the 13 stores using newspaper advertising should be ascribed to advertising alone. It is highly probable that some of these 13 stores combined better management and good location with advertising to attain these results. On the other hand, these data would seem to bear out the oft repeated opinion of wholesale grocers and jobbers that honey cannot be sold in volume unless it is well advertised. These stores advertised honey an average of 19 times during the fall and winter months.

Special Sales

Twenty of these stores put on what they termed special sales of honey. All 13 stores which carried on newspaper advertising offered special sales of honey. Probably the special sales feature was one of the major factors in the successful advertising program. The special sales offered by ten of these retailers consisted of 5-pound pails of honey at an average price of $0.55 per pail; four retailers offered comb honey at 19 cents per comb; and 1 retailer offered a 5-ounce jar of honey for 10 cents. All of these special prices were well below average prices for the year.

Fifty-three retailers reported that they had honey on display at all times; 12 that they did not. Thirty-four retailers keep honey constantly on their shelves; seventeen on their counters; two in special stalls; one in his windows; and one in a showcase. Only about one-half of the retailers (34) used cards or markers to call attention to honey.

Seasonal Consumption of Honey

It is very apparent that honey is regarded as a cold weather commodity. Without exception, the Elmira retailers reported the heaviest honey sales during the fall and winter months.

M. P. Rasmussen

ASSEMBLING MILK AT COUNTRY PLANTS

A recent study of the methods and costs of hauling milk from farms to country milk plants included fifty-six plants receiving milk from 6,212 farms.

Through the courtesy of the firms operating the plants, records were obtained of the quantity of milk delivered by each patron during a period of 12 months. In table 1 the fifty-six plants are arranged in three groups according to the total volume of milk received from patrons during the year.

TABLE 1.—VOLUME OF MILK RECEIPTS AT THE 56 PLANTS*

Annual volume per plant (pounds)	Number of plants	Cans of milk per plant per day	Number of patrons per plant
Less than 4,000,000	25	78	51
4,000,000 to 8,000,000	14	178	89
Over 8,000,000	17	447	217
All plants	56	215	111

* These plants are located in the following counties: Chemung, Broome, Chenango, Madison, Oswego, Jefferson.

Forty of the fifty-six plants were fluid-milk shipping stations; nine were butter and cheese factories; and seven were condenseries or milk-powder plants. All of the butter and cheese factories fell in the group of smallest volume, and all of the condenseries and powdered-milk plants fell in the group of largest volume.

With the aid of the local plant superintendent and other persons, the location of each patron's farm and the improved and unimproved roads were indicated on topographic maps. The distance of each farm from the plant where its milk was delivered was determined from these maps. The relative quantities of milk assembled by the plants from various distances are given in table 2.

TABLE 2.—PERCENTAGE OF MILK ASSEMBLED FROM VARIOUS DISTANCES AT 56 PLANTS

Volume of Milk per plant (pounds)	Percentage of milk from each distance			
	2 miles or less	2.1-5 miles	5.1-10 miles	Over 10 miles
Less than 4,000,000	50.6	41.6	7.6	.2
4,000,000 to 8,000,000	42.6	43.0	13.3	1.1
Over 8,000,000	18.0	37.4	35.3	9.3
All plants	28.4	39.3	26.2	6.1

The plants handling less than 4,000,000 pounds each obtained half their total supply within a distance of two miles, whereas the plants handling over 8,000,000 pounds each obtained only 18 per cent of their supply within two miles, and 45 per cent from a distance of over five miles.

The average hauling distances are given in table 3.

TABLE 3.—HAULING DISTANCES AT THE 56 PLANTS

Volume of milk per plant (pounds)	Average hauling distance per farm, miles			Maximum distance miles	Average haul per 100 pounds of milk, miles
	Improved road	Unimproved road	Total		
Less than 4,000,000	1.2	1.6	2.8	13.5	2.5
4,000,000 to 8,000,000	2.0	1.5	3.5	17.3	2.9
Over 8,000,000	4.0	1.6	5.6	18.8	5.1
All plants	3.0	1.6	4.6	18.8	4.2

The average hauling distance per farm, for all farms, was 4.6 miles, of which three miles was improved road and 1.6 miles unimproved road. The average hauling distance was greater for farms delivering to the larger plants but all the increase was on improved roads, the distance on unimproved roads remaining practically constant, regardless of the size of plant. The greatest distance of any farm from the plant where its milk was delivered was 18.8 miles.

The average haul per 100 pounds of milk was 4.2 miles, or 0.4 mile less than the average distance of the farms from the plants, indicating that the farms nearer to the plants had larger dairies. Most of the plants were located in valleys bordered by hill land that was much less productive. The majority of the more distant farms were on these hill lands and consequently had smaller dairies.

In one area of central New York, practically all of the 3,301 dairy farms delivering milk to country plants were located on the topographic maps. Thirty-seven plants, including five butter and cheese factories, two condenseries and milk-powder plants and thirty fluid-milk plants were receiving milk from these farms.

Two sets of computations were made for this area. First the quantity of milk received at each plant, and the actual distance from each farm to the plant where its milk was delivered, were determined. Then, assuming the elimination of eighteen fluid milk plants that were considered not essential for the convenient handling of the milk, all the farms were assigned to the nineteen remaining plants and the volume of milk for each plant, and hauling distances were calculated as before. No change was made in the patronage of the five butter and cheese factories, since the milk received by these plants did not meet the sanitary requirements for admission to fluid-milk plants or condenseries. In assigning other patrons to plants, primary consideration was given to probable convenience and economy of hauling the milk as determined by distance, kind of road, and topography.

The number of plants falling in each of three volume groups and the volume of milk per plant according to the two methods of computation are given in table 4. Since no change was made in the butter and cheese factories, they are not included in this or the following tables.

TABLE 4.—EFFECT UPON THE VOLUME OF MILK PER PLANT OF REDUCING THE NUMBER OF PLANTS FROM 32 TO 14

Range in annual volume per plant (millions of pounds)	When 32 plants are operated			When 14 plants are operated		
	Number of plants	Number of patrons per plant	Cans of milk per plant daily	Number of plants	Number of patrons per plant	Cans of milk per plant daily
Less than 4	13	43	77.2	1	95	120.8
4 to 8	11	78	171.4	3	98	227.8
Over 8	8	177	445.5	10	245	565.0
All plants	32	89	201.7	14	203	461.0

By eliminating the eighteen non-essential plants, the volume of milk per plant would be increased from 201.7 cans per day to 461.0 cans per day. The former figure is much greater than the average for the state, and in some other areas a greater increase in the volume of milk per plant would result from eliminating the non-essential plants.

Under actual conditions, only one-fourth of the plants in this area handled over 8,000,000 pounds of milk each, during the year. Of the fourteen plants remaining after elimination of the eighteen non-essential plants, 10, or about 73 per cent would handle over 8,000,000 pounds of milk a year, and only one would handle less than 4,000,000 pounds.

Investigations of the costs of handling milk in country plants show that the volume of milk handled by a plant is the most important factor affecting the cost per 100 pounds. Beginning with plants of very small volume, the operating cost per 100 pounds of milk decreases rapidly with increasing volume until a volume of at least 8,000,000 pounds a year is reached. The estimated cost of handling fluid milk in the thirty-two plants, as compared with the cost of handling the same volume of milk in fourteen plants is shown in table 5. These estimated costs are based on actual records of cost for plants in the New York milk shed handling similar volumes of milk.[1]

TABLE 5.—ESTIMATED COSTS OF HANDLING 200,247,000 POUNDS OF FLUID MILK IN 32 PLANTS AND IN 14 PLANTS

Range in annual volume per plant (millions of pounds)	32 plants			14 plants		
	Cost per 100 lbs.	Cost per plant	Total cost	Cost per 100 lbs.	Cost per plant	Total cost
Less than 4	$.360	$ 8,622.28	$112,089.60	$.290	$10,866.30	$ 10,866.30
4 to 8	.250	13,294.77	146,242.50	.223	15,757.18	47,271.54
Over 8	.198	27,368.05	218,944.44	.182	31,904.96	319,049.64
All plants	$.238	$14,914.89	$477,276.54	$.188	$26,941.96	$377,187.48

The milk sold from the farms in this area could be handled for about $100,000 less in fourteen plants than it could be handled in the thirty-two plants that were being operated at the time this study was made. This saving is equivalent to 5.0 cents per 100 pounds on all the milk, or about $35. per farm.

Since the eighteen plants, where it is suggested that operations should be discontinued, probably are not readily salable for other purposes, interest and depreciation on the buildings may be regarded as unavoidable costs and deducted from the gross difference in costs mentioned above. The sum of these two items is about $31,125 a year or 1.6 cents per 100 pounds of milk, leaving a net difference of 3.4 cents per 100 pounds of milk, or $24. per farm in favor of eliminating the eighteen non-essential plants.

The closing of non-essential plants would also permit a saving in shipping costs. Five of the thirty-two fluid-milk plants and condenseries in this area were off-rail, and their milk was shipped with that of other plants. If all the milk received by these plants from their farmer-patrons were shipped as fluid milk, about 61 per cent of it could be shipped at carload rates, which are one-eighth lower than the less-carload rates. If the same quantity of milk were handled by the fourteen plants, 88 per cent of the milk could be shipped at the carload rates. The minimum shipment at carload rates on the railroad serving this area is 250 cans. The estimated cost of shipping fluid milk in 40-quart cans under existing conditions, compared with the shipping costs that would result from closing of the eighteen plants, is given in table 6.

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[1] Tucker, C. K. An Economic Study of the Costs of Operating Country Milk Plants; unpublished Thesis, Cornell University, 1928.

TABLE 6.—EFFECT ON SHIPPING COSTS OF REDUCING THE NUMBER OF PLANTS FROM 32 TO 14

	32 plants	14 plants
Carlot shipments:		
Number of cans	1,443,724	2,076,147
Rate per can	$.4375	$.4375
Total freight	$631,629	$908,314
Other costs*	$1,627	$2,384
L. c. l. shipments:		
Number of cans	912,122	279,699
Rate per can	$.50	$.50
Total freight	$456,061	$139,850
Total shipping costs	$1,089,317	$1,050,548

* Carload shipments are loaded and iced by the shipper. Less-carload shipments are loaded and iced by the railroad. The estimated additional costs to the shipper for carload shipments is $11.30 per car; ice 3.8 tons @ $2.50; labor for putting in ice, loading milk and unloading empty cans, 4½ hours @ $.40

If only fourteen plants instead of thirty-two were operated in this area, all the milk could be shipped, in fluid form, at a saving of about $38,700 which is equivalent to 1.9 cents per 100 pounds of milk or $13. per farm.

If only fourteen plants instead of thirty-two were operated in this area, the average hauling distance per farm would be increased 0.5 mile, and the average hauling distance per 100 pounds of milk would be increased 0.3 mile (table 7).

TABLE 7.—HAULING DISTANCES BEFORE AND AFTER ELIMINATING NON-ESSENTIAL PLANTS

Number of plants operated	Percentage of milk from each zone				Average haul per 100 lbs. of milk (miles)	Average haul per farm (miles)		
	2 miles or less	2.1-5 miles	5.1-10 miles	Over 10 miles		Improved road	Unimproved road	Total
32	31.7	39.4	24.3	4.6	3.9	2.7	1.6	4.3
14	23.8	44.2	28.7	3.3	4.2	3.1	1.7	4.8

Under existing competitive conditions many farmers do not deliver their milk to the nearest or most conveniently reached plant. Even assuming the elimination of eighteen of the thirty-two plants, the hauling distance for one-seventh of the farms would be decreased by routing these farms to the nearest of the fourteen remaining plants (table 8).

TABLE 8.—CHANGES IN HAULING DISTANCES DUE TO ELIMINATION OF NON-ESSENTIAL PLANTS

	32 Plants	14 Plants
Farms with no change in haul	1435	1435
Average haul, improved roads, miles	2.5	2.5
Average haul, unimproved roads, miles	1.7	1.7
Total miles	4.2	4.2
Farms with a decrease in haul	357	357
Average haul, improved roads, miles	5.1	2.9
Average haul, unimproved roads, miles	1.7	1.5
Total miles	6.8	4.4
Farms with an increase in haul	762	762
Average haul, improved roads, miles	1.6	4.1
Average haul, unimproved roads, miles	1.5	1.8
Total miles	3.1	5.9

In spite of the small increase in average hauling distance per farm, the closing of non-essential plants and routing of the milk from each farm to the plant most conveniently reached, would tend to reduce hauling costs. Under existing conditions, a number of roads in this area are served by more than one commercial hauling route, due to the fact that the milk is delivered to two or more different plants. This increases the cost of hauling.

If competition between plants were reduced by elimination of the non-essential plants, more general exchanges of hauling between neighboring farmers would be encouraged, with consequent saving in expense.

A summary of the estimated cost of plant operation and of shipping the milk when thirty-two plants are operated, and when only fourteen plants are operated is given in table 9.

TABLE 9.—SUMMARY OF COSTS OF PLANT OPERATION AND SHIPPING

Number of plants	Plant operating costs		Shipping costs		Total plant and shipping costs	
	per 100 pounds	per farm	per 100 pounds	per farm	per 100 pounds	per farm
32	$.238	$167.93	$.544	$383.84	$.782	$551.77
14	.188	132.65	.525	370.43	.713	503.08
Difference	$.050	$ 35.28	$.019	$ 13.41	$.069	$ 48.69

Assuming that hauling costs from the farms to the plants would be the same whether thirty-two plants or only fourteen plants are operated, there would be a saving of 6.9 cents per 100 pounds or $48.69 per farm by operating only fourteen plants. Deducting the allowance for unavoidable costs (interest and depreciation on the plants to be closed) the net saving would be 5.3 cents per 100 pounds the first year, and would gradually approach the gross amount thereafter until the twenty-fifth year, at which time the depreciation reserve would equal the book value of the buildings.

The foregoing analysis is intended to show how competition between country plants affects the cost of handling milk in these plants and the cost of transporting it. It is recognized that such competition has certain beneficial effects, but no attempt is made at this time to appraise their value.

LELAND SPENCER

ACRES OF CROPS PER CAPITA

During the 5 years, 1917 to 1921, American farmers produced, on the average, 3.47 acres of crops for every man, woman and child in the United States. During the five years, 1922 to 1926, they produced only 3.29 acres. The population of the United States has increased faster than the acreage of crops. The low prices that have prevailed for seven years will no doubt cause a further reduction in crop acreage per capita.

TABLE 1.—ACRES OF CROPS PER CAPITA IN THE UNITED STATES[1]

Year	Acres of crops per person living on farms	Acres of crops per capita
1917		3.46
1918		3.51
1919		3.48
1920	11.7	3.48
1921		3.43
1922		3.38
1923		3.37
1924		3.30
1925	12.8	3.23
1926		3.19
1927		3.16

[1] The theoretical acreage of crops in the United States was taken from The Monthly Crop Reporter, Mar., 1919, p. 29; Mar., 1920, p. 25; Jan., 1921, p. 5; Weather Crops and Markets, Vol. 2, No. 26, Dec. 23, 1922, p. 554; Crops and Markets, Vol. 1, Sup. 12, Dec., 1924, p. 399; Vol. 2, Sup. 12, Dec., 1925, p. 379 1926 Yearbook of Agriculture, p. 1205 and Crops and Markets, Vol. 4, No. 12, p. 469, Dec., 1927.
The population, July 1, is the estimate of Dr. W. I. King, National Bureau of Economic Research. Farm population is as reported by the U. S. Census.

In the 5 years, 1920 to 1925, the acres of crops per person living on farms increased 9 per cent, but the acres of crops per capita decreased 7 per cent. Each farmer was doing much more work than formerly, but acres of crops per capita declined rapidly.

G. F. WARREN and F. A. PEARSON

SEVENTY-TWO YEARS OF FARM TAXES IN NEW YORK

Farm taxes in New York have had a varied history. Their course is indicated in Table I.

TABLE I.—INDEX NUMBERS OF FARM TAXES IN NEW YORK STATE*

1910-1914 = 100.

Year	Index number	Year	Index number
1854	34	1891	55
1855	40	1892	62
1856	35	1893	63
1857	43	1894	62
1858	37	1895	63
1859	38	1896	62
1860	45	1897	60
1861	51	1898	58
1862	67	1899	63
1863	74	1900	59
1864	240	1901	61
1865	158	1902	55
1866	128	1903	62
1867	123	1904	63
1868	104	1905	65
1869	90	1906	62
1870	100	1907	68
1871	90	1908	77
1872	105	1909	77
1873	95	1910	82
1874	100	1911	98
1875	91	1912	101
1876	69	1913	105
1877	76	1914	113
1878	68	1915	122
1879	67	1916	123
1880	69	1917	143
1881	63	1918	146
1882	68	1919	166
1883	70	1920	198
1884	67	1921	191
1885	70	1922	197
1886	73	1923	219
1887	55	1924	220
1888	56	1925	231
1889	65	1926	234
1890	64		

* From 1887 to 1926, all general property taxes are included. From 1854 to 1886 all general property taxes except local school taxes are included. Local school taxes were not available in the documents consulted. If local school taxes rose at the same rate as other general property taxes, their inclusion or non-inclusion in the index of farm taxes would make no difference in this index. If they rose faster, the index of farm taxes for the period 1854 to 1886 should be lower; if slower it should be higher. Whatever change would be made by the inclusion of school taxes is slight, for school taxes are much less than other taxes on farm property. They were 27.5 per cent of all farm taxes in 1924; other taxes were 72.5 per cent.

Sources of material and the method of computing the index numbers from 1887 to 1926 are indicated in Exp. Stat. Bul. 457, p. 29, published by the New York College of Agriculture.

The material for the index numbers from 1854 to 1886 is from the annual reports of the boards of supervisors of the counties from which towns were selected. The reports are in the collections of the State Library in Albany and the Public Library in New York. All relevant reports which were available were consulted, a visit being made to each library. The towns selected are the same as those used for the index numbers from 1887 to 1926, except that of necessity a smaller number was used. The smallest number used is 4 in 1885. From 1860 the number of towns varies from 10 to 20.

Due to gaps in the material, the combination of towns from 1854 to 1886 differs for each year. It was necessary therefore to recompute the base for each year so that the same combination would be in the base as in the year to which it was related Local school taxes were excluded from the base, as were special franchise taxes.

Because of its length, this index of farm taxes may be criticized for not taking account of changes in the farm population. If this were done ,an allowance would have to be made for changes in the efficiency of farm workers. These corrections, however valuable, would make the index of farm taxes something else from what it is. It is a measure of general property taxes paid by farmers just as the wholesale price index of the Bureau of Labor Statistics is a measure of wholesale prices, or the index of prices paid to farmers in New York is a measure of farm prices. This index of farm taxes may be compared with indexes of changes in the farm population, changes in the efficiency of farm workers, wages, prices, and the like, but to be useful in these comparisons, it must be itself.

From 1854 to just before the Civil War, farm taxes rose slowly and with hesitation as is evidenced by declines. On the eve of the war they were rising rapidly. When it broke, taxes rose at an increasing rate, reaching a peak in 1864. The great rise of 1864 is accounted for partly by rises in prices but mostly by the bounty taxes which reached their peak during that year. State, county, and in many instances town bounty taxes were spread upon the tax rolls. After 1864 a long decline set in, rapid at first, then gradual with occasional fluctuations upward. This decline continued until 1902, after which a long rise began, gradual at first and then rapid with the coming of the war and immediate post-war years. From 1921 to the present time the movement upward, though rapid, has been less so than from 1916 to 1920.

M. SLADE KENDRICK

FACTORS AFFECTING DAIRY FARM INCOMES

Studies by Warren, Misner, Scoville[1] and other students have shown that the size of business, amount of crops sold, efficiency in livestock production and economy in the utilization of human labor are very important factors affecting the profits of farming in New York State. These conclusions have been verified by many students in various parts of the United States and indeed in foreign countries.[2]

The agricultural depression had a profound effect upon farm profits. A study was made of 527 dairy farms in six different areas for the year 1921 to determine the relative importance as measured in labor income of the following factors, per cent of total receipts from crop sales, crop index, total man-work units per farm, man-work units per man, and cow cost of milk production. The net effect of these five factors accounts for between 35 and 64 per cent of the variations in labor income in the different areas. (table 2.)

TABLE 1.—MULTIPLE CORRELATION OF THE FACTORS AFFECTING LABOR INCOME
527 Dairy Farms, 1921.

x_1 = labor income; x_2 = percent of total receipts from crops; x_3 = crop index; x_4 = total man-work units per farm; x_5 = man work units per man; and x_6 = cow cost of producing milk.

Area	Market for milk	Labor income	Number of farms	Coefficient
Norwich	Condensery	$ −156	83	0.59
Oxford	Grade A	222	84	0.72
Tully-Homer	Grade A	601	51	0.80
Munnsville	Grade B	44	125	0.65
Earlville	Grade B	258	117	0.62
La Fargeville	Cheese Factory	−424	67	0.71

The per cent determination coefficients indicate that the cost of producing milk is the most important factor affecting labor incomes. The highest coefficient appears in the Oxford area where Grade A milk is produced, the lowest in the La Fargeville area where the milk is sold to cheese factories. The sizes of these coefficients decrease as the intensiveness of the dairy enterprise is diminished. In the dairy regions producing market milk one-fourth or more of the factories affecting labor income are attributable to variations in the cost of producing milk.

The per cent of sales from crops and the crop index were important factors where any considerable portion of the crops grown were cash crops. It should be pointed out that the full effect of the crop index is often obscured. This is the case where most of the crops are fed to livestock. The effect of the crop index is then indirect upon labor income, depending upon the kind and efficiency of the livestock production.

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[1] Warren, G. F.;and Livermore, K. C.; An Agricultural Survey. Cornell University Bulletin 295, 1911.
Misner, E. G.; Economic Studies in Dairy Farming in New York I, II, III, IV, V, VI. Cornell University Agricultural Exp. Sta. Bulletins 421, 433, 438, 441, 442 and 452, 1923-26.
Scoville, G. P.; Some Important Factors for Success in Dairy farming in St. Lawrence County. County Bulletin 3. 1915.

[2] Buck, J. Lossing; An Economic and Social Survey of 102 Farms near Wuhu, Anhwei, China. Nanking Agr. and Forestry Ser. Vol. I, No. 7. 1923.
Marie, J. A.; The Farm Business in Quebec. Dominion of Canada, Dept. of Agr. Bulletin 96. 1920.

TABLE 2.—PER CENT DETERMINATION OF LABOR INCOME BY VARIOUS FACTORS

Area	Norwich	Oxford	Tully-Homer	Munnsville	Earlville	La Fargeville
Per cent receipts from crops	+ 7.8	+ 0.0	+14.1	+13.0	+ 6.8	+ 3.7
Crop index	+ 5.9	+ 0.9	+ 9.6	+ 2.4	+ 1.8	+ 1.1
Total man-work units per farm	+ 4.4	− 4.2	− 0.8	− 2.7	− 0.6	+22.5
Man-work units per man	+ 1.3	+16.4	+11.2	+ 5.9	+ 5.7	+20.5
Cow cost of milk production	+15.6	+37.9	+29.8	+24.0	+24.4	+ 3.1
Total	+35.0	+51.0	+63.9	+42.6	+38.1	+50.9

Size of business measured in total man-work units per farm was not an important factor in most areas. This was to be expected as most of the farms showed small or minus labor incomes. In 1921 the prices of most farm products were such that size of business was not conducive to large farm profits. When the prices of farm products are low relative to prices farmers pay for the articles they buy, efficiency of operation is much more important than volume of business.

Efficiency in the use of labor is measured by the number of man-work units accomplished per man. A 10 per cent increase in the amount of work accomplished per man resulted in a 40 per cent increase in labor income. (table 3.)

Under the farm conditions prevailing in these areas in 1921, it is apparent that the important factors in successful dairy-farm management were to pay particular attention to efficiency of operation, cutting costs where possible, keeping the labor force fully employed, and growing as much of the more profitable cash crops as the land and labor supply available permitted. Further investigation of the factors determining the degree of intensity of operation that is most profitable with varying price relationships would enable one to draw more definite conclusions.

TABLE 3.—EFFECT UPON LABOR INCOME OF A GIVEN PERCENTAGE CHANGE IN ONE FACTOR WHEN ALL OTHERS ARE HELD CONSTANT

	Oxford	Tully-Homer	Munnsville	Earlville	La Fargeville	Norwich
	Increase in labor income					
10 per cent increase in per cent sales from crops	$4	$138	$40	$43	$10	$14
10 per cent increase in crop index	26	205	44	67	42	54
10 per cent decrease in total man work units	71	101	42	36	151	62
10 per cent increase in man work units per man	131	203	91	102	174	62
10 per cent decrease in cow cost of milk	255	335	184	235	200	113

P. H. STEPHENS

ROADSIDE MARKETS

One roadside stand selling farm products in New Hampshire has been operating since 1850. With the advent of the automobile, the present operator began to sell gas and oil, but the biggest change in his business resulted from the opportunity to sell increasing amounts of farm products, largely to people who drive out one to fifteen miles from neighboring cities and villages.

A study of roadside marketing in New Hampshire was made in the summer of 1927. Records of over one hundred stands indicate that regardless of the operators past experience present conditions are making changes for him not only possible but imperative. All stands selected for this survey were in farm communities rather than within city or village limits, and about one-third of them sold mostly farm products. Care was exercised to include all places in the state selling farm produce in appreciable quantities. With few exceptions, this produce was grown in the immediate vicinity, and in the majority of cases by the seller himself.

In contrast to the selling of farm products as the principal business, the other two-thirds included stands with a wide diversity of business, selling candy, ice-cream, cooked food, gas and oil, meals, some vegetables or fruits, flowers, over-night accommodations, and the like. The number of such stands in the state is legion. They spring up like mushrooms, and close or change hands as quickly.

The average total sales per stand for all products purchased, grown, or homemade, was $2,756. Of this amount $596 was for farm products produced on the place. The sale of home-grown fruits and vegetables, even in small quantities, was limited to fifty-six places; the sales of farm products averaged $1,085 per stand in this group.

There are factors in salesmanship too numerous to mention here which add to, or detract from, the selling capacity at any given place. Sales may be limited, for instance, because the stand is selling farm products and should be selling frankfurters. As suggested at the beginning, a business in farm produce may be built up by inviting buyers to make special trips to the seller's farm. The possibility of selling ice-cream in a similar way is not as evident.

Rather complete records for automobile traffic over the different roads in New Hampshire made it possible to study the effect of traffic on sales. The relationship between total sales and distance to the nearest stand, distance to the nearest village or city, percentage of cars that were trucks, and the total daily traffic, are given in table 1. The only factor having any influence of significance is the number of cars passing daily.

TABLE 1.—PERCENT DETERMINATION OF TOTAL SALES BY THE AVERAGE NUMBER OF CARS PASSING DAILY, DISTANCE TO NEAREST VILLAGE, DISTANCE TO NEAREST STAND, AND PERCENTAGE OF CARS THAT WERE TRUCKS

Factors	Per cent
Average number of cars passing daily	35.4
Distance to nearest village	2.5
Distance to nearest stand	0.4
Percentage of cars that were trucks	0.5
Total	38.8

R 1.2345 = 0.617

M. G. Eastman

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FARM ECONOMICS

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NEW YORK STATE COLLEGE OF AGRICULTURE
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BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[3]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	191	173	236	281	83
Oct., 1926	152	140	134	148	171	196	174	237	246	81
Nov.	151	150	135	151	170	183	175	235	250	85
Dec.	150	145	133	150	169	185	176	238	256	87
Jan., 1927	150	142	130	145	171	194	175	237	252	96
Feb.	149	142	132	145	171	191	174	237	258	95
Mar.	148	142	131	142	172	193	173	240	261	90
Apr.	147	147	130	143	172	200	173	235	264	93
May	147	167	132	146	172	192	174	235	273	94
June	146	172	134	149	172	182	173	235	275	93
July	147	161	137	148	167	186	171	233	280	85
Aug.	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Jan., 1928	149	148	141	143	168	193	172*	236	318	89
Feb.	149	148	138	142	168	193	170*	235	316	95
Mar.	149	149	141	143	168	192	169*	239	327	90
Apr.	151	152	145	147		196	169*	232	340	97
May		162*	153	157*					347	101

*Preliminary figure will be revised later.

(Footnotes continued on next page.)

BUSINESS CONDITIONS

Wholesale prices advanced two points in April. Money rates have risen. Prices of 70 industrial stocks are 3.47 times the pre-war level.

Farm Prices in the United States

A phenomenal rise in the price of many farm products occurred in May. The index of prices paid to farmers for food products rose ten points, and for all farm products, eight points. The rise applied to nearly all farm products. Eighteen out of 23 products rose in price.

Hogs have been cheap for a year, but a striking rise occurred in May, when the farm price of hogs rose from $7.75 to $8.82. Hogs were marketed rapidly in the spring months. Receipts have strikingly declined. Data are not available to indicate whether the number of pigs being raised is high enough to make hogs low this fall. It seems practically certain that hogs will advance either this year or next year, because the period of low prices will certainly result in a reduced supply. It is possible that the reduction may have already gone far enough to make the present advance continue.

Owing to the high price of feed, a heavy liquidation of hens occurred. The index number of the price of eggs is twelve points higher than last month, and 26 points higher than in May of last year.

Beef, veal calves, sheep, lambs, and wool have all advanced in price.

A striking rise has occurred in the prices of grains, stimulated by the poor condition of the winter wheat crop and the low stocks of grain on farms.

Retail prices of food are not available for May, but will doubtless show some advance before long.

The cost-of-living index is an approximate index of farm costs. Prices paid to farmers for food approached nearer to this figure in May than at any previous time since the agricultural depression began.

The depression is not yet over, but the growth of population and the decrease in food production are beginning to have an effect. A long time is required for agricultural adjustment, but it is taking place and presumably will as usual, result in over-adjustment.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities is converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20 ,1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February, 1927.

[4] Cost of assembling, transporting, processing and distributing food. For methods of calculation, see Farm Economics, No. 50, p. 830, Jan., 1928.

[5] The index numbers for December and June are those published by the United States Bureau of Labor Statistics. Intervening months bear the same ratio to these figures that Snyder's index for the intervening months bears to his figures for June and December. Both index numbers use 1913 as 100, but Snyder's shows that the five-year period, 1910-14, also averages 100.

[6] Data furnished by the Department of Labor of New York. Union wage rates, in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[7] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[8] Data for prime comercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

Farm Prices in New York State

In New York State, farm prices for May were 62 per cent above the pre-war level, or 10 points above the index for April, and nine points above the index for the United States.

Before the war, the May farm price of wheat in New York averaged ten cents above the United States farm price. The difference this May is 36 cents.

The farm price of beans in New York before the war was eight cents per bushel above the level for the United States. This year the difference is 75 cents.

Before the war, potatoes at New York farm prices were worth two cents a bushel more than at United States farm prices. This year the difference is 27 cents in favor of New York.

The farm price of cows in New York before the war was $6.28 above the United States level. This year the difference is $34.00.

Before the war, the New York farm price of hay was $3.53 per ton above the United States farm price. New York hay is now $.80 less than the United States farm price.

Before the war, the New York farm price of sheep was 64 cents below the United States farm price. New York sheep are now $2.19 less than the United States farm price.

Before the war, lambs were worth eight cents more per hundred at New York farm prices than at United States farm prices. The difference in favor of New York is now seventeen cents.

Feed Prices

During May, the wholesale prices of practically all feeds advanced. Cottonseed-meal advanced $6.19 per ton, hominy, $4.17, ground oats, $3.40, meat scrap, $1.50, corn-meal, $1.49, and bran, $1.21.

A dairy ration at wholesale prices commands practically $50.00 per ton.

Feed prices normally advance at this time of the year. The advance this year was normal, or more than normal, for all feeds except corn-meal. The index number of cottonseed-meal rose eighteen points, standard middlings, fourteen points, hominy, ten points, and ground oats, nine.

The index number of a dairy ration, 173, is higher than prices of New York State dairy products, and the index of a poultry ration, 166, is higher than prices of New York State poultry products.

G. F. Warren and F. A. Pearson

METHODS AND COSTS OF HAULING MILK IN THE COUNTRY

The increased mileage of improved roads and the lower operating cost and greater dependability of motor trucks has resulted in the development of numerous commercial truck routes for hauling milk from dairy farms to country milk plants. Out of a total of 1,547 farms supplying milk to twenty plants in New York State, 681, or 44 per cent were sending their milk on such routes, 710 were delivering their own milk every day, and 156 exchanged hauling with one or more of their neighbors. The greatest number exchanged hauling with only one neighbor but in a few instances as many as six or seven were included in the ring. Of the 779 dairymen whose farms were within three miles of the plant, only 17 per cent sent their milk on commercial routes. Of those more than three miles from the plant, 71 per cent used the commerical routes (table 1.)

(Continued on page 921)

UNITED STATES
Prices Paid to Producers for Farm Products
(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
Average	64.8	39.9	88.0	61.7	73.3	168.8	2.26	12.4	11.94	112	69.6	87.6
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1927	78.8	44.9	120.5	67.1	88.4	195.9	3.07	15.9	12.00	...	132.3	114.0
1927												
May	73.0	45.4	123.2	68.4	88.1	205.7	2.96	13.9	13.20	...	146.0	118.0
June	88.9	48.0	130.1	76.3	98.8	204.7	3.23	14.8	13.10	...	191.0	136.4
July	92.4	46.3	127.4	71.4	101.0	198.4	3.35	15.5	11.71	...	183.1	136.8
August	97.7	44.4	123.5	69.0	98.1	203.7	3.45	17.1	9.97	...	146.3	146.7
September	95.3	43.9	119.2	69.5	92.3	197.1	3.26	22.5	10.51	...	107.4	121.9
October	87.6	44.6	113.7	66.8	82.9	191.2	3.08	21.0	10.63	...	97.9	98.1
November	73.7	45.1	111.4	66.8	79.4	184.2	2.95	20.0	10.54	...	95.4	86.5
December	75.1	48.1	113.9	71.5	81.0	185.3	3.01	18.7	10.55	...	94.1	91.9
1928												
January	75.2	49.3	115.2	73.6	82.0	188.4	3.11	18.6	10.60	...	93.6	93.4
February	79.0	51.3	116.2	75.4	85.2	189.9	3.44	17.0	10.24	...	96.2	98.6
March	86.2	54.5	121.6	79.4	90.2	194.8	3.86	17.8	10.19	...	113.2	109.6
April	91.9	56.9	129.2	81.3	94.8	198.4	4.26	18.7	10.29	...	116.8	115.1
May	102.5	62.0	144.3	84.5	102.3	210.5	4.35	20.1	10.70	...	103.3	121.4

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1927	122	113	137	109	121	116	136	128	101	...	190	130
1927												
May	113	110	137	105	121	117	130	110	108	...	210	122
June	131	115	143	118	131	117	140	117	106	...	275	142
July	134	111	146	116	128	119	146	122	98	...	246	149
August	138	111	145	120	126	119	150	137	86	...	165	152
September	130	112	136	118	124	115	142	184	90	...	134	131
October	125	114	130	111	114	114	136	174	91	...	141	115
November	116	117	127	111	111	114	132	165	91	...	159	113
December	129	124	132	118	114	120	131	153	85	...	155	127
1928												
January	129	128	132	120	116	116	138	151	90	...	149	119
February	133	130	130	118	120	111	155	139	85	...	146	118
March	142	136	137	126	128	112	177	144	85	...	169	125
April	148	140	145	126	131	115	195	151	85	...	172	124
May	158	150	161	130	140	119	192	160	87	...	148	124

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.85	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1927												
May	114	81	21.7	19.8	42.1	72.43	7.17	9.37	7.68	11.92	30.1	9.41
June	140	80	20.2	17.8	40.4	74.19	7.08	9.46	7.27	11.95	30.2	8.40
July	144	80	19.9	20.7	40.3	74.15	7.13	9.82	7.16	11.44	30.7	8.58
August	136	80	19.7	23.4	40.3	74.24	7.21	10.37	7.13	11.15	31.2	9.24
September	131	78	19.4	29.4	41.7	76.10	7.42	10.78	7.06	11.14	31.2	9.78
October	135	77	19.7	35.6	43.4	78.62	7.55	11.04	7.05	11.22	30.9	10.16
November	142	75	19.4	41.6	44.5	81.09	8.00	10.67	7.42	11.42	31.1	8.99
December	152	75	19.2	43.3	45.7	82.36	8.32	10.71	7.38	11.39	32.0	8.14
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62
March	177	85	20.1	23.4	43.9	87.95	8.81	11.34	7.85	12.31	35.4	7.48
April	183	85	20.8	22.8	44.0	88.55	8.92	11.18	8.11	12.73	35.6	7.75
May	191	86	21.5	24.2	42.0	89.00	9.09	11.18	8.09	13.03	37.0	8.82

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1927												
May	93	56	184	119	170	147	130	142	155	185	169	130
June	114	55	171	107	172	149	130	140	153	190	173	117
July	141	56	167	124	176	151	134	146	157	188	175	118
August	172	57	164	136	171	150	135	151	161	197	175	124
September	187	56	163	152	169	154	139	153	162	198	180	129
October	196	56	167	160	168	158	142	157	164	204	181	138
November	196	55	170	163	167	162	154	154	174	209	181	129
December	197	55	178	144	161	165	159	155	169	201	185	121
1928												
January	167	55	183	129	159	176	168	160	163	196	179	111
February	163	57	184	111	161	181	171	167	167	200	186	107
March	163	59	179	109	169	180	167	164	164	198	189	101
April	160	58	181	133	173	179	162	165	160	197	198	102
May	156	60	182	145	170	180	165	170	163	202	208	122

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-t[illegible]	Apples	Horses
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1927										
May	93	54	130	80	91	3.30	13.50	146	100	124
June	106	59	138	88	106	3.54	14.00	200	115	130
July	108	56	138	85	104	3.60	12.60	185	115	130
August	112	55	131	85	100	3.63	11.40	140	120	135
September	113	51	129	82	96	3.66	10.90	125	130	127
October	105	53	126	81	85	3.60	11.00	115	130	127
November	98	53	126	80	82	3.60	10.50	120	145	126
December	100	55	128	84	83	3.60	10.20	120	160	125
1928										
January	96	56	128	82	83	3.90	10.20	120	160	123
February	102	58	129	85	87	4.02	9.70	115	175	128
March	105	61	141	90	95	4.47	9.80	130	195	132
April	112	66	153	98	97	4.92	9.80	135	195	136
May	119	76	180	105	105	5.10	9.90	130	200	135

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1927										
May	127	108	130	101	121	140	86	203	88	70
June	141	116	135	110	138	151	86	286	117	72
July	142	110	137	109	124	149	79	268	131	74
August	145	108	136	110	123	148	77	159	174	76
September	140	104	134	108	126	148	72	140	210	72
October	133	113	130	108	115	148	72	167	213	72
November	127	115	130	107	114	149	70	214	223	72
December	133	117	131	112	115	148	67	188	216	71
1928										
January	133	124	129	109	117	167	67	188	198	71
February	144	123	129	113	121	172	64	167	201	73
March	148	130	141	117	134	194	63	191	217	75
April	158	135	153	127	133	216	64	196	189	75
May	163	152	180	133	140	217	63	181	177	76

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.4[illegible]	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	43.2	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1927												
May	27.3	26	29.6	50	2.27	109.00	10.90	6.60	6.20	12.90	33	10.70
June	26.6	25	30.1	48	2.18	113.00	10.80	6.60	6.80	12.60	31	10.00
July	24.6	28	34.9	48	2.29	113.00	11.60	6.20	6.00	12.20	33	9.60
August	24.5	32	43.3	47	2.47	114.00	12.10	6.30	5.60	11.70	34	10.00
September	24.8	40	52.3	49	2.80	113.00	12.80	6.60	5.70	11.60	35	10.60
October	23.9	48	64.5	50	2.93	117.00	13.20	6.80	5.60	11.20	35	10.50
November	24.2	59	65.8	50	3.07	121.00	13.00	6.40	5.50	11.40	36	10.20
December	24.5	56	53.5	52	3.04	121.00	12.80	6.80	5.50	11.90	38	9.40
1928												
January	24.8	46	49.1	51	2.95	123.00	12.90	6.80	6.00	11.60	37	9.00
February	25.5	40	38.4	50	2.85	127.00	13.20	7.10	6.10	12.50	38	8.90
March	26.8	32	33.7	50	2.53	130.00	13.20	7.00	6.30	13.00	39	8.60
April	26.3	28	32.8	50	2.30	128.00	12.60	7.50	6.30	13.00	42	8.60
May	26.6	26	33.9	49		123.00	12.20	7.50	5.90	13.20	42	9.40

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1927	173	136	126	161	166	196	146	116	140	187	162	140
1927												
May	183	137	130	172	191	196	148	117	144	197	165	141
June	175	125	123	171	204	199	137	120	160	190	155	135
July	162	127	128	178	182	200	142	114	144	185	157	128
August	155	128	141	168	164	201	143	112	130	185	170	129
September	159	148	143	163	176	197	147	117	140	188	167	134
October	154	160	143	161	164	209	149	119	138	187	167	133
November	167	169	120	156	163	215	148	117	140	189	171	137
December	178	137	109	153	159	214	146	125	127	193	181	128
1928												
January	182	121	124	150	155	229	152	129	144	181	168	121
February	182	125	113	152	157	234	158	134	145	195	173	119
March	189	114	130	161	151	232	158	135	147	201	186	111
April	178	133	146	167	158	227	163	140	138	191	200	110
May	179	137	149	169		221	166	133	137	202	210	124

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time. add 5 cents to the net pool price. (+8c for fat —3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29.18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40.33	44.09
1927												
May	41.86	36.50	37.40	44.72	35.80	36.10	37.00	52.48	43.78	76.80	39.74	43.71
June	45.63	42.25	40.50	43.40	33.94	36.63	.....	51.93	47.04	74.80	41.86	45.68
July	46.40	39.30	40.25	41.60	33.00	38.50	.....	51.80	46.31	80.30	40.65	46.44
August	48.72	38.58	43.50	41.22	34.00	42.10	.....	52.10	46.00	82.80	41.08	47.35
September	45.15	40.60	44.50	41.95	33.63	37.63	.....	52.30	47.10	81.30	41.31	45.11
October	42.29	41.10	41.38	42.48	33.38	34.50	36.88	52.30	47.63	84.80	40.95	43.91
November	42.47	41.30	39.70	43.66	35.75	36.25	37.20	51.50	49.80	79.80	41.76	43.87
December	43.30	41.98	43.50	46.08	37.81	37.63	38.69	51.80	52.23	79.80	43.31	44.81
1928												
January	42.92	43.60	42.40	46.34	38.70	38.60	39.80	53.30	54.80	76.80	44.31	44.56
February	45.13	44.60	42.00	47.08	40.75	40.81	40.81	54.55	55.85	75.80	45.56	45.86
March	45.85	44.60	42.50	48.55	44.25	43.88	44.56	56.93	59.38	74.80	47.22	47.87
April	46.83	44.60	43.13	50.46	41.94	41.94	45.63	58.13	64.51	74.30	47.82	49.06
May	48.32	44.60	47.30	53.86	43.15	45.20	46.25	57.70	70.70	75.80	49.66	52.89

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1927												
May	146	133	137	137	142	141	141	159	134	147	139	137
June	160	153	147	131	146	147	...	162	143	143	148	144
July	157	149	146	124	141	149	...	160	140	153	144	144
August	154	131	146	124	137	154	...	151	134	158	137	145
September	138	133	142	130	136	139	...	148	138	154	136	137
October	137	143	140	137	141	134	141	152	149	159	142	136
November	141	145	138	140	149	144	143	151	158	149	146	138
December	150	142	155	148	153	148	146	151	166	149	149	141
1928												
January	156	144	152	149	149	148	148	154	167	148	150	143
February	165	146	152	148	155	156	151	157	174	145	154	146
March	172	152	159	153	169	168	164	171	186	143	163	153
April	169	160	164	156	163	163	172	174	198	142	167	155
May	168	163	174	165	171	177	177	174	216	145	173	166

(Continued from page 915)

TABLE 1. METHODS OF HAULING MILK IN THE COUNTRY

Distance from farm to milk plant	Number of dairymen delivering milk			
	On commercial hauling routes	Individually	Exchanging with neighbors	Total
1 mile or less	17	140	10	167
1.1 to 2 miles	47	219	58	324
2.1 to 3 miles	68	174	46	288
3.1 to 5 miles	218	142	33	393
5.1 to 7 miles	146	25	8	179
7.1 to 10 miles	133	9	1	143
Over 10 miles	52	1	0	53
Total	681	710	156	1,547

The twenty plants included in this tabulation handled an average of 7,300,000 pounds per plant for the year, which is somewhat more than the average amount handled by all country fluid milk plants in the State.

Some of the dairymen who sent their milk on commercial routes hauled it some distance to a platform where it was picked up by the hauler. A complete record of the hauling by these dairymen is not available. However, the records for 1,216 dairymen on 76 commercial routes show that 380, or 31 per cent, hauled their milk some distance to platforms. The average distance was 1.1 miles, nearly all of which was unimproved road.

The number of dairymen using various kinds of vehicles in hauling their milk to the twenty country plants is shown in table 2.

TABLE 2. KIND OF VEHICLE USED BY DAIRYMEN FOR HAULING MILK

Distance from farm to milk plant	Number of dairymen using each kind of vehicle					
	One-horse wagon	Two-horse wagon	Auto-mobile	Light truck	Heavy truck	Total number
1 mile or less	64	40	16	28	2	150
1.1 to 2 miles	71	79	70	53	4	277
2.1 to 3 miles	49	43	62	66	0	220
3.1 to 5 miles	29	29	58	55	4	175
5.1 to 7 miles	5	13	5	10	0	33
Over 7 miles	1	1	1	8	0	11
Total number	219	205	212	220	10	866

About one-half of these dairymen used horses and one-half used automobiles or trucks for hauling milk. Horses were favored more for the short hauls, under three miles, while for distances of more than three miles automobiles and trucks were more generally used. Most of the dairymen reported as using automobiles or trucks relied upon horses for from one to three months during the winter and spring when the roads were in bad condition.

Information was obtained from 204 dairymen regarding the time required to haul the milk each day, the kind of vehicle used, whether the dairyman exchanged hauling with neighbors, and the like. The quantity of milk delivered by each dairyman was ascertained from the records at the plants. Approximate costs of hauling were computed by using the following rates for human labor, horse labor, use of wagon and harness, and use of auto or truck; human labor, 35 cents per hour; horse labor, 17 cents per hour; use of wagon and harness, 5 cents per hour of horse labor; and use of auto or truck, 8 cents per mile.

A considerable number of dairymen used two-horse teams for hauling milk but no charge was made for the second horse except in cases where the load was apparently too large for a one-horse wagon.

Of the 204 dairymen who furnished information relative to costs of hauling milk, 115 used horses almost exclusively; 89 used automobiles or trucks when the condition of the roads permitted, and horses during the remainder of the year. The costs of hauling milk by these two methods are summarized in table 3.

TABLE 3. COSTS OF HAULING MILK BY INDIVIDUAL DAIRYMEN

	Dairymen using chiefly		All dairymen
	Horses	Auto or truck	
Number	115	89	204
Average hauling distance:			
Improved road	1.1	1.8	1.4
Unimproved road	1.1	1.0	1.1
Total	2.2	2.8	2.5
Average number of trips a year:			
With one horse	275	58	181
With two horses	42	22	34
With auto or truck	5	252	112
Total	322	332	327
Hours per trip:			
With horses	1.2	1.6	1.3
With truck	0.7	0.6	0.6
Cost per trip:			
Human labor	$.430	$.306	$.375
Horse labor	.253	.085	.178
Use of wagon and harness	.074	.025	.052
Use of auto or truck	.006	.336	.153
Total	$.763	$.752	$.758
Pound of milk per trip:			
Own	238	307	268
Neighbors'	35	33	34
Total	273	340	302
Cost per 100 pounds of milk	$.280	$.221	$.251

The average cost per trip was 76.3 cents for the dairymen who used horses, chiefly, and 75.2 cents for those who used automobiles and trucks, chiefly. Those using automobiles and trucks had 0.6 mile longer haul and also had somewhat larger loads. The average cost per 100 pounds of milk was 28 cents for the dairymen who used horses, and 22.1 cents for those who used trucks. Some of the dairymen in each group exchanged hauling with neighbors. This accounts for the fact that the number of trips averaged only 322 and 332 respectively, and for the hauling of neighbors' milk, amounting to an average of 35 pounds and 33 pounds respectively for the two groups. Exchanging with neighbors is an effective way of cutting down the cost of hauling milk.

The costs of hauling milk from farms at varying distances from the plants where the milk was delivered are summarized in table 4.

TABLE 4. COST OF HAULING MILK VARIOUS DISTANCES

	Distance from farm to plant				
Dairymen using chiefly	1 mile or less	1.1. to 2 miles	2.1. to 3 miles	3.1 to 4 miles	Over 4 miles
			Cost per trip		
Horses	$.350	$.526	$.794	$1.059	$2.048
Autos or trucks	.250	.459	.737	.991	1.361
			Cost per 100 pounds of milk		
Horses	$.147	$.208	$.284	$ .388	$ .514
Autos or trucks	.099	.196	.197	.201	.342

The cost per trip, for dairymen using horses chiefly, increased from 35 cents for distances of 1 mile or less, to $2.05 for distances of over 4 miles. The cost per trip for dairymen using automobiles and trucks increased from 25 cents for distances of 1 mile or less, to $1.36 for distances of over 4 miles. Costs per 100 pounds of milk increased in smaller proportion, due to the fact that the dairymen having the longer hauls also had larger loads. Small dairies far from the plants could not afford to haul their own milk.

The cost of hauling milk by individual dairymen varies according to the alternative opportunities for use of human labor, horse labor and equipment, as well as according to the size of load, distance, condition of roads, and the like. On the basis of the rates used in this calculation, it appears that the auto or truck is, on the whole, a more economical means of hauling milk than horses, especially for distances over 4 miles. However, in cases where there is but little use for the farm horses early in the day, it would be proper to make a smaller charge for horse labor. This would tend to decrease the advantage of the auto or truck.

LELAND SPENCER

EFFICIENCY IN USE OF FEED WITH VARYING RATES OF MILK PRODUCTION

The bearing of the increased output of meat and milk from a given quantity of feed on problems of the agricultural depression and the food supply, make it necessary that the basic data used be examined with care. Data intended for some other purposes are commonly and largely used.

Data from farm survey studies and from cow-testing associations do not agree as to the relative efficiency with which feed is used by high-producing cows and low producers. The cows with high production in cow-testing associations include a disproportionate number of cows that freshen right, that freshen in the fall, that are of prime age, and that have not done so well the previous year. The dairy industry must include heifers whose milk yield is low and must include the last year of use of old cows. For both, the efficiency in use of feed is likely to be low. Further it is not possible to have every cow freshen just right in each year.

False conclusions about how easily production can be doubled, may be drawn by comparing the feed consumption of low and high-producing groups in cow-testing associations, for example, "the average production can be doubled at an additional feed-cost of only 40 per cent."[1]

Data from other sources show that average herd production is not doubled with any such apparent efficiency in the use of feed.

In Cow-Testing Association work, each cow's roughage is not separated by a partition when eaten, even tho it may be weighed once a month when the tester visits the farm. Hence, the high producer standing by the low producer eats more, and the low producer less roughage than is weighed out and charged to her. Thus, in the writer's opinion, the data show less difference in roughage consumption between high and low producing cows than the facts. They certainly show less difference than farm management studies. If this be true, then increased production is not obtained as easily as cow-testing data suggest.

In Broome County, N.Y., for herds with a high average milk production the feed cost except pasture was 66 per cent higher for the high-than for the low-producing group. The costs other than feed were 16 per cent higher. When pasture was added, the total feed cost was 59 per cent higher for the high-producing group.

BROOME COUNTY FARM SURVEY, YEAR 1915*

Number of cows	Milk	Feed cost except pasture	Costs other than feed
235	4063	$41	$50
294	7136	68	58
Percentage increase	76	66	16

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* Misner, E. G. An Economic Study of Dairying on 149 Farms in Broome County, New York. Cornell Univ. Agr. Exp. Sta. Bul. 409, p. 385.

[1] The Official Record. U. S. D. A. Jan. 4, 1928.

ROCHESTER FARM SURVEY*

Number of cows	Milk	Grain	Pounds	Dry forage
			Succulent feed	
294	4674	1661	7087	4752
260	8326	4342	12880	3548
Increase over first group in per cent	78	161	82	-25

* North, Charles E. Report of Rochester Milk Survey. p.-90.

In the Rochester area, 161 per cent more grain, 82 per cent more succulent feed and 25 per cent less dry forage were required for a production 78 per cent higher than for the low-producing group. With grain at $40, succulent feed at $6 and dry forage at $10 per ton the feed cost per cow would be 83 per cent higher with the heavier producers.

From farm survey data it appears that increased average herd production of around 80 per cent requires increased feed expenditures of from 60 to 85 per cent.

From this it would appear that doubling of the milk yield under farm conditions requires at least twice the additional feed suggested by cow testing association records.

Labor, use of buildings, and other costs are less per 100 pounds of milk in high-producing herds. High production is one of the most important factors in increasing profits. But the efficiency with which feed is used is much less than is indicated by placing a cow in the low group when she has a bad year and in the high group when she has a good year.

E. G. Misner

COST OF PRODUCING ONIONS IN THE ELBA MUCK LAND AREA, WESTERN NEW YORK, 1925

The Elba muck area in Genesee and Orleans counties is the largest tract of muck under intensive cultivation in Western New York. Approximately 2300 acres are devoted to onions, lettuce, carrots, and potatoes, the first two crops utilizing most of the acreage. This report covers a survey of 41 farms, including 28.4 per cent of the total onion acreage in the Elba muck area in 1925.

The average acreage of muck per farm was 18.67, of which 3.21 acres were undeveloped. About half of the cleared area per farm, 7.28 acres, was in onions, and 7.59 acres in lettuce. The total marketable stock of onions produced was 180,778 bushels, an average yield of 605.6 bushels per acre, and 4,409.2 bushels per farm. Approximately 77.5 per cent of the crop was sold directly from the field, leaving 22.5 per cent for storage. Shrinkage in storage accounted for 18.2 per cent of the crop stored. Ninety-six per cent of the total marketable crop actually moved to market.

Farm costs of production were divided into growing, harvesting, and marketing. The crop is usually sold outright at harvest, the buyer supplying the sacks, the grower grading, sacking, and delivering the onions to shipping station. Therefore, neither storage charges nor incidental storage costs are included in the summary here given.

Growing the crop up to the harvesting stage costs on the average $214.03 per acre and approximately 35 cents per bushel, table 1. The range in cost per bushel grown was from $0.21 to $1.26. About 60 per cent of the crop was grown at less than the average cost. The largest items of the total growing cost were human labor, 43.7 per cent; land costs, 23.4 per cent; and fertilizer, 16.9 per cent.

TABLE 1.—AVERAGE COSTS OF GROWING ONIONS ON 41 ELBA NEW YORK MUCK FARMS PRODUCING 180, 778 BUSHELS, ON 298.5 ACRES IN 1925

Item	Unit	Number of farms	Average per acre Quantity	Average per acre Cost	Average cost per bushel	Per cent of total cost
Seed	Pounds	41	5.70	$12.46	$.02058	5.82
Fertilizer	Pounds	41	1960.80	36.26	.05987	16.94
Labor: Operator	Hours	41	63.83	31.46	.05195	14.70
Other Man	Hours	38	69.95	28.63	.04745	12.35
Woman	Hours	25	88.07	30.90	.04940	9.14
Child	Hours	24	114.75	26.99	.04680	7.54
Horse	Hours	8	13.71	3.02	.00464	.29
General equipment	Hours	8	13.71	1.31	.00202	.13
Tractor	Hours	40	10.30	17.81	.02943	8.21
Hand tractor	Hours	11	6.23	3.18	.00568	.47
Truck	Miles	41	41.47	6.21	.00925	2.90
Auto	Miles	20	63.46	6.35	.01060	1.46
Special equipment	—	41	—	1.48	.00244	.69
Interest at 6 per cent	—	25	—	.92	.00152	.27
Use of land	—	41	—	37.39	.06174	23.44
Use of buildings	—	41	—	1.18	.00195	.55
Miscellaneous	—	41	—	3.34	.00552	1.56
Average costs				$214.03	$.35340	100.00

The average cost of harvesting the onion crop was $148.50 per acre or 24.5 cents per bushel, table 2. Individual farm costs varied from 13.7 to 43.9 cents per bushel. Approximately 60 per cent of the crop was harvested at less than the average cost. Human labor was again the largest single item of cost, 58.7 per cent. Use of crates and other special equipment comprised 24.5 per cent of the total harvesting cost.

TABLE 2.—AVERAGE COSTS OF HARVESTING ONIONS ON 41 ELBA NEW YORK MUCK FARMS PRODUCING 180, 778 BUSHELS, ON 298.5 ACRES IN 1925

Item	Unit	Number of farms	Average per acre quantity	Average per acre cost	Average cost per bushel	Per cent of total cost
Labor: Operator	Hours	41	53.16	$26.41	$.04361	17.79
Other man	Hours	40	112.44	44.78	.07393	29.35
Woman	Hours	27	54.72	20.31	.03361	8.89
Child	Hours	16	39.85	9.53	.01681	2.63
Horse	Hours	9	23.66	5.09	.00905	.68
General equipment	Hours	9	23.66	2.37	.00422	.32
Tractor	Hours	36	10.53	17.74	.02919	10.99
Truck	Miles	24	23.75	3.23	.00534	1.22
Auto	—	3	28.07	2.81	.00405	.17
Special equipment	—	41	—	36.90	.06093	24.85
Use of buildings	—	41	—	4.26	.00704	2.87
Miscellaneous	—	32	—	.43	.00068	.24
Average costs				$148.50	$.24520	100.00

Costs of selling and delivering the onions to the shipping station averaged $24.59 per acre, and 4.3 cents per bushel handled, table 3. The largest items of cost were use of truck and human labor.

The total cost of producing onions averaged $387.12 per acre and approximately 64 cents per bushel ($1.13 per hundred pounds), table 4. Growing costs accounted for 55.3 per cent; harvesting charges, 38.4 per cent; and marketing 6.4 per cent of the total production costs.

TABLE 3.—AVERAGE COSTS OF MARKETING ONIONS ON 24 ELBA NEW YORK MUCK FARMS PRODUCING 91, 238 BUSHELS, ON 159.5 ACRES AND MARKETING ENTIRE CROP F. O. B. BASIS, 1925 SEASON

Item	Unit	Number of farms	Average per acre quantity	Average per acre cost	Average cost per bushel	Per cent of total cost
Labor: Operator	Hours	24	14.72	$6.94	$.01213	28.21
Other man	Hours	9	14.49	5.23	.00919	6.54
Tractor	Hours	1	1.43	2.29	.00365	.41
Truck	Miles	24	98.36	13.38	.02338	54.40
Use of buildings	—	24	—	2.43	.00425	9.88
Miscellaneous	—	12	—	.28	.00047	.56
Average costs				$24.59	$.04299	100.00

TABLE 4.—AVERAGE FARM COSTS OF PRODUCING ONIONS ON ELBA NEW YORK MUCK FARMS STUDIED FOR 1925 SEASON

Item	Number of farms	Average cost per acre	Average cost per bushel	Average cost per 100 lbs.	Per cent to total
Growing costs	41	$214.03	$.35340	$.62000	55.29
Harvesting costs	41	148.50	.24520	.43018	38.36
Marketing costs	24	24.59	.04299	.07542	6.35
		$387.12	$.64159	$1.12560	100.00

Although the onions were grown at a loss on ten farms, there was an average net profit for all farms of $91.35 per acre, about 15 cents per bushel. The average net profit for twenty-four of the farms on which none of the crop was stored was $144.31 per acre, about 25 cents per bushel. Estimated storage costs for that portion of the crop which was stored were about 37 cents per bushel on the basis of the total number of bushels put into storage, or about 45 cents per bushel on the basis of the total number of bushels actually removed from storage.

Of the total cost of holding onions during 1925, storage warehouse costs were the largest item, 33.6 per cent, followed by shrinkage, 28.6 per cent. Other important storage costs were labor, 14.2 per cent; use of crates, 11.6 per cent, and use of auto truck, 9.1 per cent.

W. G. MEAL

EFFECT OF DAILY CHANGES IN THE AVERAGE PRICE OF HOGS AT CHICAGO UPON RECEIPTS

Market price is the point of adjustment between the money demand for a given article and the market supply of that article. Other things being equal, price varies inversely with the supply and directly with the demand.

Not only does supply play a large part in making price, but also price plays a large part in determining the supply which will be offered for sale. A study of the daily "average" price and the daily receipts of hogs on the Chicago market for the 1840 days, January 1921 to December 1926, inclusive, demonstrates this fact.*

During this six-year period, 98 per cent of the changes in the daily "average" price were changes of forty cents or less per hundredweight; and 92 per cent, of twenty-five cents or less. On ten per cent of the days, the "average" price of hogs was the same as the "average" price the preceding day. On only 28 days during this period did the price change more than forty cents.

On each day of the week, it was found that an increase in the price of hogs that day over the preceding day resulted in an increase in the number of hogs received the following week over the number normally received. Likewise, a decrease in the price was followed by a decrease in the number of hogs offered for sale the following week.

On the average, the number of hogs received on Wednesday at Chicago was 43 per cent of the number received on Monday. Friday's receipts averaged 54 per cent of Monday's receipts; Saturday's receipts, 13 per cent.

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* The daily "average" price of hogs and the daily receipts were taken from the Chicago Daily Drovers Journal, Yearbook of Figures.

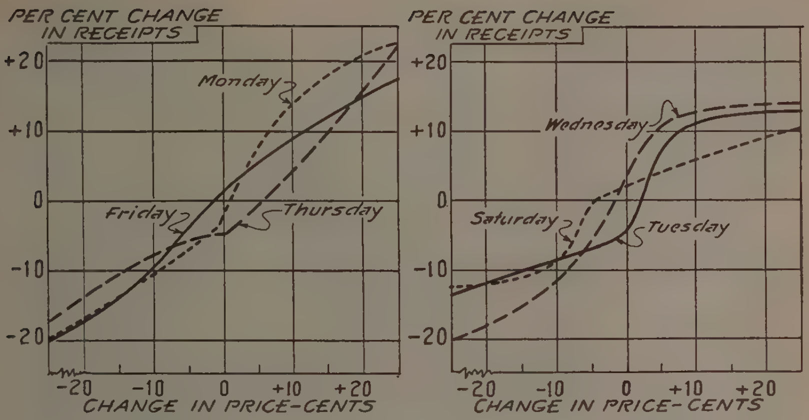

FIGURE 1. EFFECT OF CHANGES IN THE DAILY "AVERAGE" PRICE OF HOGS AT CHICAGO EACH DAY OF THE WEEK UPON RECEIPTS OF HOGS THE FOLLOWING WEEK, 1921-1926

A given price on Monday, Thursday, or Friday has more effect upon the number of hogs received in Chicago than the same price change on Tuesday, Wednesday or Saturday. Monday's price change is most important; Saturday's least.

When the average price of hogs on Monday was twenty cents less than on Saturday, receipts on Wednesday were 34 per cent of those on Monday and receipts on Friday, 35 per cent. In other words, the relative number of hogs (34 per cent) received on Wednesday when the price declined twenty cents on Monday was 79 per cent of the relative number normally received (43 per cent). On Friday it was 83 per cent and on the following Monday, 83 per cent.

TABLE 1. EFFECT OF CHANGES IN THE "AVERAGE" PRICE OF HOGS IN CHICAGO UPON RECEIPTS OF HOGS ONE WEEK LATER, 1921-1926

Cents change in average price	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Per cent change in receipts the following week					
−25	−20	−14	−20	−17	−20	−12
−20	−17	−12	−18	−14	−18	−12
−15	−14	−10	−16	−11	−14	−11
−10	−11	− 9	−12	− 8	−10	− 9
− 5	− 7	− 7	− 6	− 6	− 4	− 1
0	− 2	− 5	+ 4	− 5	+ 1	+ 2
+ 5	+ 8	+ 7	+11	− 1	+ 6	+ 4
+10	+14	+11	+13	+ 4	+ 9	+ 6
+15	+18	+12	+14	+10	+12	+ 8
+20	+21	+13	+14	+16	+15	+ 9
+25	+23	+13	+14	+22	+17	+10

TABLE 2. RELATIVE EFFECT OF CHANGES IN THE MONDAY "AVERAGE" PRICE OF HOGS IN CHICAGO DURING NOVEMBER, DECEMBER, JANUARY, FEBRUARY, MARCH, AND JUNE AND THE REMAINING SIX MONTHS UPON RECEIPTS OF HOGS THE FOLLOWING WEEK, 1921-1926

Months of	Changes in price of hogs, cents										
	−25	−20	−15	−10	− 5	0	+5	+10	+15	+20	+25
	Corresponding change in receipts, per cent										
November, December, January, February, March and June	−21	−19	−17	−13	−10	−6	+8	+16	+21	+24	+26
April, May, July, August, September and October	−12	−11	−10	− 9	− 7	−6	+5	+10	+13	+14	+15

Thus, a reduction of twenty cents in the price of hogs on Monday was accompanied by a 21 per cent decrease in receipts on Wednesday, a 17 per cent decrease on Friday and a 17 per cent decrease on the following Monday. Likewise an advance of twenty cents in the price on Monday was followed by an increase in the receipts of hogs the following week—18 per cent on Wednesday, 14 per cent on Friday, and 11 per cent the next Monday.

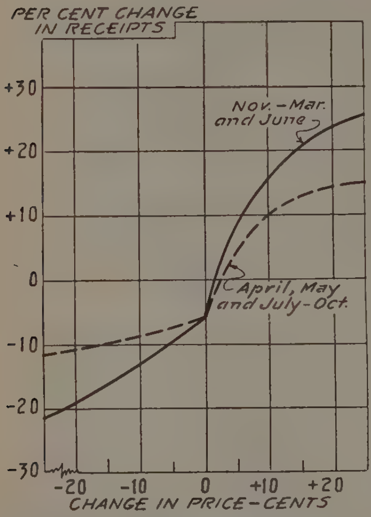

FIGURE 2. EFFECT OF CHANGE IN THE MONDAY "AVERAGE" PRICE OF HOGS AT CHICAGO DURING THE MONTHS OF NOVEMBER, DECEMBER, JANUARY, FEBRUARY, MARCH, AND JUNE AND DURING THE REMAINING SIX MONTHS UPON RECEIPTS OF HOGS THE FOLLOWING WEEK, 1921-1926.

When there is least pressure of farm work, changes in the price of hogs on Monday have most effect upon the number of hogs received the following week.

The effect of a given price change was largely dependent upon the day on which it took place (table 1, figure 1). In general, price changes on Monday, Thursday, and Friday were more effective in encouraging and discouraging market movement than similar changes in price on Tuesday, Wednesday, and Saturday.

Furthermore, on Monday, Thursday, and Friday, equal advances in price increased, and equal reductions decreased receipts the following week at very nearly a constant rate. Price advances increased receipts at the rate of approximately 5 per cent for each additional 5-cent increase in price. Price reductions decreased receipts at the rate of approximately 3 per cent for each additional 5-cent decline in price.

On Tuesday, Wednesday, and Saturday, small price fluctuations had relatively more effect upon market receipts of hogs than large price changes. An advance of 5 cents in Tuesday's price, in itself, stimulated receipts 12 per cent. The chief price change on Saturday affecting receipts was a ten-cent decline which reduced receipts 8 per cent.

A given price change exerts more influence upon the percentage change in receipts during the months of November, December, January, February, March and June, than during the remaining months (table 2, figure 2). A 25-cent reduction in Monday's price during the former period decreased receipts 21 per cent. During the remainder of the year the same price-change reduced receipts but 12 per cent.

It is conceivable that, due to pressure of other farm work, shippers of hogs could not act as quickly and effectively to market price changes during the months of April, May, July, August, September, and October, as during the other six months. During the planting and harvesting periods, work in the fields could not readily be set aside to ship hogs when the price advanced somewhat.

A comparison of the relative effect of Monday price-changes on Wednesday receipts, Friday receipts, and the following Monday receipts during each of the two periods, is shown in figure 3. Changes in the price of hogs on Monday has much more effect on the number of hogs received on Wed-

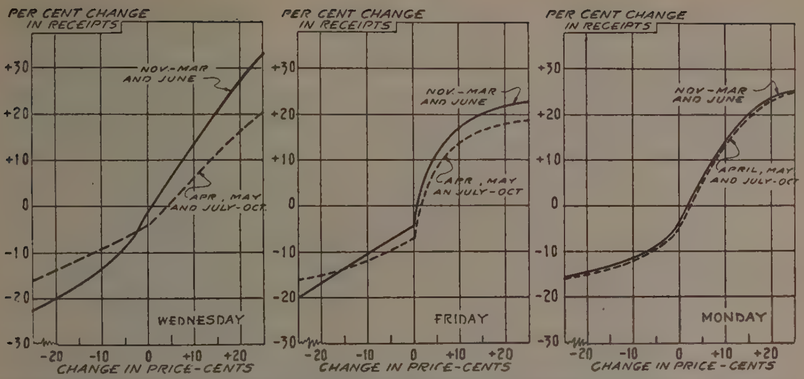

FIGURE 3. EFFECT OF CHANGE IN THE MONDAY "AVERAGE" PRICE OF HOGS AT CHICAGO DURING NOVEMBER, DECEMBER, JANUARY, FEBRUARY, MARCH, AND JUNE AND DURING THE REMAINING SIX MONTHS UPON RECEIPTS OF HOGS ON WEDNESDAY, ON FRIDAY, AND ON THE FOLLOWING MONDAY, 1921-1926

When other farm work is taking most of their time, shippers of hogs respond less quickly to changes in price. One week after the price change, adjustments have been made so that the response of shippers at that time is the same in the summer and in the winter months.

nesday in Chicago during June and the winter months than during the other six months. Receipts on Friday were affected somewhat differently although not as much as were Wednesday receipts. The effect of Monday price changes on the receipts of hogs the following Monday was the same during each of the two periods.

These results seem to indicate that when farmers are taking care of their crops, they are slow to respond to changes in the price of hogs by increasing or decreasing their shipments. However, by the end of a week, such adjustments have been made that the response to price change is just as great at that time in the summer months as in the winter months.

H. J. Stover

COST OF OPERATING FEED STORES

Records have been obtained of the 1924 business of 47 feed stores and of the 1926 business of 83 feed stores. The 1924 records were largely from Chenango county and vicinity. The 1926 records are about equally divided between the territory of Chenango and southern Madison counties and a territory composed of St. Lawrence, Jefferson, Lewis, and northern Oswego counties.

TABLE 1.—AMOUNT AND DISTRIBUTION OF INVESTMENT OF STORES OFFERING GRINDING SERVICE
(omitting stores renting)

	1924	1926
Number of Stores	21	42
Average total assets	$47,211.07	$49,847.28
	Per cent	Per cent
Cash	4.4	5.7
Accounts and notes receivable	39.9	33.5
Inventory	24.6	26.1
Other current assets	0.6	1.5
Total current assets	69.5	66.8
Total fixed assets	30.5	33.2

The average investment, and its distribution among the assets of businesses owning their stores and offering a feed-grinding service for the two years are shown in table 1. The figures for the two years correspond very closely. In each case, the average total investment in this type of business was a little under $50,000. About 5 per cent of this investment was in cash, about one-third in credit, and about one-fourth in inventory, making the total current assets about two-thirds of the entire investment for each year. The other one-third was invested in land, buildings, and equipment.

Corresponding figures for stores not offering grinding service, doing simply a merchandising business, are shown in table 2. In each year, the stores doing only merchandising had an average investment of between $25,000 and $30,000. In both years about three-fourths of the capital was invested in current assets and one-fourth in fixed property. The proportion of the total invested in each of the principal current assets was approximately the same as for the stores doing grinding. The average investment of stores renting land and buildings agreed closely for the two years, being $21,536.49 in 1924, and $22,322.72 in 1926.

TABLE 2.—AMOUNT AND DISTRIBUTION OF INVESTMENT OF STORES DOING ONLY MERCHANDISING

(omitting stores renting)

	1924	1926
Number of stores	17	20
Average total assets	$26,370.30	$29,966.52
	Per cent	Per cent
Cash	8.4	8.0
Accounts and notes receivable	35.2	39.2
Inventory	31.5	28.7
Other current assets	0.5	1.4
Total current assets	75.6	77.3
Total fixed assets	24.4	22.7

Most stores offering grinding service have a decidedly larger investment than those who merchandise only, and a larger proportion of it is invested in land, buildings and equipment. When the fixed property is rented, the total investment is considerably less.

TABLE 3.—SALES VOLUME AND SUMMARY OPERATING STATEMENT OF STORES OFFERING GRINDING SERVICE

	1924	1926
Number of stores	25	54
Average sales volume	$99,257.52	$105,808.46
	Per cent	Per cent
Total sales	100.0	100.0
Cost of goods sold	87.2	87.2
Gross margin	12.8	12.8
Salaries and wages	5.8	5.8
Fixed property expense	2.1	2.0
Interest	2.0	1.7
Bad debts	0.9	0.6
Power		0.5
Truck expense	1.9	0.7
Other expense		0.9
Total expense	12.7	12.2
Net income	0.1	0.6

The average sales volume of stores offering grinding service, and its percentage distribution to cost of goods, expenses, and income, are shown in table 3. The average volume of sales of stores doing grinding was about $100,000 each year. Of this, 87.2 per cent went to pay for the goods sold, leaving 12.8 per cent of sales to pay expenses and provide a profit for the owner. Expenses in 1924, which include a salary for the owner and interest at 6 per cent on his investment, absorbed practically all of the gross margin, leaving a net income amounting to only one-tenth of one per cent of sales. In 1926, the net income was six-tenths of one per cent of sales, resulting chiefly from lower interest and bad-debt expenses.

TABLE 4.—SALES VOLUME AND SUMMARY OPERATING STATEMENT OF STORES DOING ONLY MERCHANDISING

	1924	1926
Number of stores	22	29
Average sales volume	$75,796.23	$80,233.02
	Per cent	Per cent
Total sales	100.0	100.0
Cost of goods sold	90.8	90.7
Gross margin	9.2	9.3
Salaries and wages	4.3	4.5
Fixed property expense	1.1	1.1
Interest expense	1.8	1.6
Bad debts	0.7	0.5
Other expense	0.8	1.0
Total expense	8.7	8.7
Net income	0.5	0.6

Comparable data for stores merchandising only are shown in table 4. Their average sales volume in each year was approximately $75,000, or about three-fourths that of the grinding stores. In 1924, 90.8 per cent and in 1926, 90.7 per cent of the total sales was paid for the goods sold, leaving only 9.2 per cent and 9.3 per cent respectively, to cover expenses and profit. In each year, expenses, including a salary for the owner and interest on his investment, were 8.7 per cent of sales, leaving in each case a net income of about one-half of one per cent of sales.

Of the stores offering grinding service in 1924, 44 per cent made less than a reasonable salary for the owner, plus 6 per cent interest on his investment, while in 1926 the corresponding figure was 39 per cent. Of the stores merchandising only in 1924, 27 per cent had a minus net income, while in 1926 the corresponding figure was 38 per cent.

W. POWELL

THE PREMIUM ON PRIME MUTTON OVER MIDDLING-QUALITY MUTTON ON THE LONDON CENTRAL MEAT MARKET, 1850-1925

Research workers in the United States have shown that there are distinct cycles of over- and under-production of beef cattle, dairy cows, hogs, sheep and horses, which depend primarily upon the length of the life cycle of those animals. The average duration from the high to the low points of the cycle for beef cattle or milk cows, is about 8 years; for hogs, 32 months; for sheep, 4½ years; and for horses, 11 years. These studies stimulated the writer to contrast the prices in the United Kingdom, and after considerable trouble, it was found that the fluctuations in premiums for different grades of mutton did not respond to the normal life cycle, but rather to the economic conditions of different classes of consumers.

The prices of prime mutton and second-quality mutton on the London Central Market, were studied for the period, 1850 to 1925.

From 1850 to 1871, the premium on first-quality mutton decreased from 16 per cent to 7 per cent. It then increased until 1898, when it reached 41 per cent, which was the maximum during the period studied. After 1898, the premium diminished until in 1917 it was only 7 per cent. During the period of price control by the Ministry of Food, the premium disappeared entirely, but since 1920, it has tended to increase, and in 1925 it was 8 per cent.

During the period of falling prices from 1870 to 1896, and the increase in the value of gold, the purchasing power of wages and consols rose rapidly

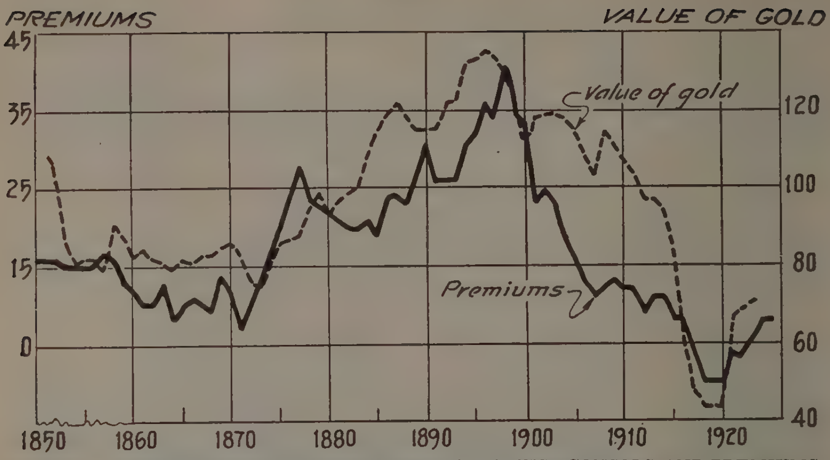

FIGURE 1. PURCHASING POWER OF WAGES AND OF BRITISH CONSOLS, AND PREMIUMS FOR PRIME MUTTON OVER MIDDLING-QUALITY MUTTON ON LONDON CENTRAL MEAT MARKET, 1850-1925.

The purchasing power of wages, and fixed incomes rose when prices fell from 1870 to 1896, and caused high-quality mutton to command an increasing premium over middling-quality mutton. From 1896 to 1920, prices rose more rapidly than wages, or fixed incomes, and the premium on high-quality mutton declined very rapidly.

and stimulated the demand for the higher qualities of mutton. When the general price level rose, during the period 1895 to 1913, wages and consols did not advance so rapidly, the purchasing power of the majority of English consumers decreased, and consequently the lower qualities of mutton were in greater demand. The premium on first-quality mutton fell from 41 per cent in 1898, to 11 per cent in 1914. A further decrease in the premium took place between 1914 and 1920, when prices rose rapidly, and the purchasing power of most consumers diminished.

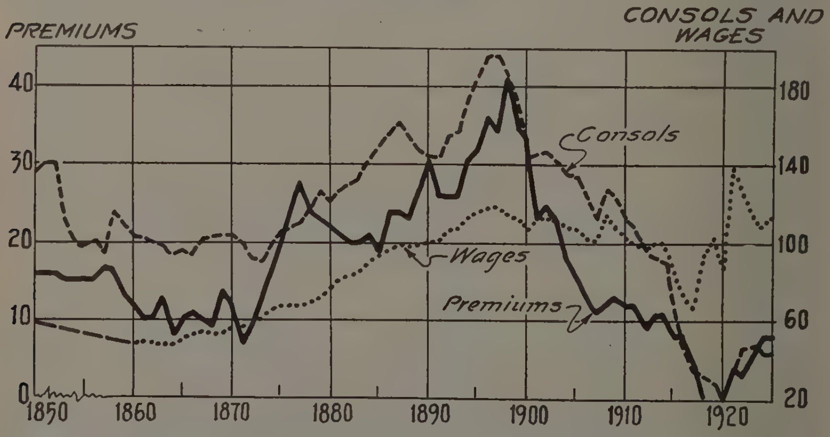

FIGURE 2. PREMIUM ON PRIME MUTTON OVER MIDDLING-QUALITY MUTTON ON LONDON CENTRAL MEAT MARKET, AND THE INDEX OF GOLD VALUES IN THE UNITED KINGDOM, 1850-1925.

From 1870 to 1896, the value of gold rose, as the general price level fell. During this period the premium which first-quality mutton commanded over second-quality mutton increased steadily. When the value of gold declined from 1896 to 1920, the premium on first-quality mutton diminished as the purchasing power of consumers decreased.

From 1920, the premium on first-quality mutton over middling-quality mutton has risen as the value of gold and the purchasing power of the majority of consumers have increased.

Approximately two-thirds to three-fourths of the English consumers derive their purchasing power from wages or fixed incomes. When the value of gold is rising, their purchasing power increases, and when the value of gold falls, the purchasing power is decreased, and lower grades of mutton are in greater demand. Thus, the value of gold is a good indicator of the trend in the premium which first-quality mutton commands over second-quality mutton.

A similar study was made with the prices of first- and second-quality beef on the same market, for the period, 1850 to 1925. The same correspondence of the premium on first-quality beef with the value of gold was shown as in the case of mutton, with the exception that the fluctuations in the premium for first-quality beef were not so great.[1]

K. A. H. Murray

THE NEW YORK METROPOLITAN DISTRICT AS A RETAIL HONEY MARKET, 1926[2]

(These data are from studies conducted by the Department of Agricultural Economics and Farm Management, New York State College of Agriculture, in cooperation with the Division of Cooperative Marketing, Bureau of Agricultural Economics, United States Department of Agriculture.)

This survey included 411 retail food stores located in the New York Metropolitan district, in the boroughs of Manhattan, Brooklyn, and the Bronx. According to the census conducted by the New York City Department of Health in 1923, there were 15,800 groceries in these boroughs of New York City. This survey, then, represents a sample of approximately 2.6 per cent of all food retailing stores of this type. A business survey made by New York University, showing the population of greater New York by nationality and income groups, was used as a guide in making this sampling more effective.

Types of Food Stores

Data were obtained concerning the amount of honey sold during 1926 by 229 chain stores, 164 independent-unit grocery stores, eight delicatessen stores, eight market stalls, one fruit and vegetable store, and one drugstore. Chain stores constituted 55.7 per cent of the records obtained, independent grocery stores 39.9 per cent, delicatessen stores 2.0 per cent, market stalls 2.0 per cent, fruit and vegetable stores 0.2 per cent, and drug stores 0.2 per cent.

Amount of Honey Sold by Various Types of Stores

The average amount of honey sold by these stores during 1926 was 329.1 pounds per store, table 1. This was considerably less than the average per store, 583.6 pounds, in Elmira, New York.[3]

Market stalls were outstanding in importance as outlets for honey, with annual sales averaging 2,428 pounds per stall. These large sales can undoubtedly be explained by the fact that these stores were located at strategic points, (adjacent to large subway or elevated terminals, ferries, and the like, where large numbers of commuters passed daily.) Favorable location, plus prominent and attractive display, and advertising were unquestionably responsible for the high sales attained. Similar cases were noted in Philadelphia and Boston.[1] It seems likely that the establishment in more favorable locations of other stores of this type would increase the sale of honey in the New York area.

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[1] Murray, K. A. H., Premiums of Prime Beef over Middling beef on the London Central Meat Market, 1848-1925, Farm Economics No. 51, p 878-882, March 1928.

[2] Mr. P. H. Stephens, a graduate student in the Department of Agricultural Economics and Farm Management, assisted in this study.

[3] Rasmussen, M. P., Some facts concerning the retailing of honey in Elmira, N. Y., Farm Economics No. 52, May 1928, pages 900-903.

New York chain stores sold almost twice as much honey per store as the independent grocery stores. Chain-grocery systems may offer the most promising outlets for honey. An explanation of this may lie in the fact that chain stores are rarely found in the very poorest districts.[2]

TABLE 1. AMOUNT OF HONEY SOLD PER STORE BY DIFFERENT TYPES OF RETAIL STORES, NEW YORK METROPOLITAN DISTRICT, 1926.

Type	Number stores	Total honey sold, pounds	Average sold per store, pounds	Range sold per store, pounds	Per cent of total
Stall	8	19,421	2428	234 to 7000	14.36
Fruit and vegetable	1	995	995	995	.74
Chain	229	81,163	354	4 to 2835	60.00
Delicatessen	8	2,204	275	44 to 945	1.63
Unit grocery	164	31,469	192	8 to 4065	23.26
Drug	1	20	20	20	.01
All stores	411	135,272	329	4 to 7000	100.00

TABLE 2. VARIATIONS IN AMOUNT OF HONEY SOLD PER STORE, 16 CHAIN SYSTEMS, NEW YORK METROPOLITAN DISTRICT, 1926

Symbol of system	Number stores in group	Total honey sold, pounds	Average per store, pounds	Range in sales, per store, pounds	Per cent of tota
Chain A	52	22,626	437	52 to 2835	28.0
Chain B	50	13,398	268	42 to 1188	16.5
Chain C	41	13,834	337	4 to 1946	17.0
Chain D	21	9,843	469	52 to 2048	12.1
Chain E	14	6,499	464	92 to 1429	8.0
Chain F	12	3,569	297	60 to 594	4.4
Chain G	10	4,662	466	236 to 1051	5.7
Chain H	9	1,815	201	62 to 699	2.2
Chain I	9	1,692	188	50 to 633	2.1
Chain J	5	635	127	34 to 338	.8
Chain K	1	138	138	138	.2
Chain L	1	790	790	790	1.0
Chain M	1	39	39	39	.1
Chain N	1	537	537	537	.7
Chain O	1	683	683	683	.8
Chain P	1	303	303	303	.4
All Chains	229	81,163	354	4 to 2835	100.0

Chain systems are not all equally good outlets, table 2. However, in all but four chain systems, the average sales per store were well above the average sales of the independent grocery stores. Sixteen chain-grocery systems were represented in the 229 chain stores studied in the New York area. The average sales per store ranged from 39 to 790 pounds per year.

Amount of Extracted and Comb Honey Sold

During 1926, the average amount of extracted honey sold in New York City per store was 306.9 pounds, table 3, compared with 415.7 pounds in Elmira, New York. All of the stores from which records were obtained sold extracted honey. Approximately 30 per cent of the stores sold less than 100 pounds per year each. On the other hand, 17 stores, 2 per cent, sold over 2,100 pounds per year.

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[1] Personal observation of the author.

[2] Personal observation of Mr. P. H. Stephens.

TABLE 3. SALES OF 126,142 POUNDS OF EXTRACTED HONEY, 411 STORES, NEW YORK METROPOLITAN AREA, 1926.

Range, pounds	Number of stores	Sales per store, pounds
1 to 50	69	27
50.1 to 100	58	73
100.1 to 150	61	126
150.1 to 200	35	172
200.1 to 300	69	246
300.1 to 400	32	338
400.1 to 600	35	496
600.1 to 1000	35	696
Over 1000	17	2,169
4.5 to 7000	411	307

TABLE 4. SALES OF 9,130 POUNDS OF COMB HONEY, 411 STORES, NEW YORK METROPOLITAN AREA, 1926.

Range, pounds	Number of stores	Sales per store, pounds
0	343	——
1 — 25	10	20
26 — 50	25	41
51 — 100	20	74
101 — 500	10	313
Over 500	3	1100
0 — 1500	411	22

While all of these stores sold some extracted honey, 83.4 per cent of them sold no comb honey, table 4. Only three of the 411 stores sold comb honey in appreciable quantities. This is in marked contrast to Elmira, New York, where 84.6 per cent of the stores reported the sale of comb honey. The unvarying explanation offered by chain-store and wholesale-grocery managers was that comb honey is a fragile commodity, very easily spoiled. Probably lack of knowledge concerning the care of comb honey has some bearing on the subject.

It seems reasonable to conclude that the New York metropolitan area is not a promising market for comb honey.

Size and Type of Container

During 1926, extracted honey was sold in 36 different sizes and three types of containers in these 411 stores, table 5. Approximately 96 per cent of the extracted honey was sold in 17 sizes. There is a general complaint on the part of retailers in the New York area that honey is offered

TABLE 5. AMOUNT OF EXTRACTED HONEY SOLD IN VARIOUS TYPES OF CONTAINERS, 411 RETAIL STORES, NEW YORK METROPOLITAN AREA, 1926.

Container	Pounds sold	Per cent of total	Number of containers	Container	Pounds sold	Per cent of total	Number of containers
2½-pound tin pail	41,500	32.90	16,600	9-ounce glass jar	716	.57	1,272
1-pound tin can	19,392	15.37	19,392	10-pound tin pail	660	.52	66
14-ounce glass jar	9,843	7.80	11,249	12-ounce glass jar	657	.52	876
8-ounce glass jar	8,706	6.90	17,412	3-ounce glass jar	617	.49	3,289
16-ounce glass jar	7,212	5.72	7,212	13-ounce glass jar	429	.34	528
5-pound tin pail	7,140	5.66	1,428	22-ounce glass jar	330	.26	240
5-ounce glass jar	6,124	4.86	19,597	17-ounce glass jar	306	.24	288
160-pound wooden keg	3,360	2.66	21	12-pound tin pail	216	.17	18
36-ounce glass jar	2,754	2.18	1,224	10½-ounce glass jar	120	.09	182
36-pound tin can	2,484	1.97	69	15-ounce glass jar	112	.09	120
60-pound tin can	2,460	1.95	41	24½-ounce glass jar	110	.09	72
32-ounce glass jar	2,367	1.88	1,188	10-ounce glass jar	75	.06	120
11-ounce glass jar	2,203	1.75	3,204	6½-ounce glass jar	68	.05	168
48-ounce(quart) glass jar	1,494	1.19	498	6-ounce glass jar	63	.05	168
15½-ounce glass jar	1,408	1.12	1,453	3½-ounce glass jar	39	.03	180
24-ounce(pint) glass jar	1,134	.90	756	11½-ounce glass jar	34	.03	48
7-ounce glass jar	1,071	.85	2,448	4-ounce glass jar	24	.02	96
5½-ounce glass jar	892	.71	2,595	2-ounce glass jar	13	.01	104

for sale in containers of too many sizes. The number of sizes could be reduced 50 per cent without reducing sales to any appreciable extent, table 5. The necessity for half-ounce variations in sizes is questioned by many retailers. It has been pointed out that half-ounce sizing may be an effort to deceive the consumers. From the standpoint of weight, the 2½-pound tin pail was the most popular size, table 5. The one-pound glass jar or tin can was second in volume, and first in individual sales. These data would seem to deny the common assumption that consumers in the New York metropolitan area are unable to use honey from the larger containers because of lack of storage. Assuming that only one container was purchased at a time, there were 26,604 sales of 16-ounce containers, 19,597 sales of 5-ounce glass containers, 17,412 sales of eight-ounce containers, and 16,600 sales of 2½-pound containers.

Cost and Selling Price

The retail prices of honey in the various containers were obtained from the retail store managers, but it was difficult to secure accurate data on the average cost. The managers of retail chain stores are rarely advised of the cost of commodities they sell. They are merely told the price at which the commodity must be sold. The average independent unit grocery-store manager buys honey so infrequently and keeps so few records that he is often unwilling to even estimate costs. Data on costs to retail stores were obtained, however, from the headquarters of four of the larger chain-store systems and six wholesale grocery concerns, which handled most of the honey. It is likely that these average costs would not vary appreciably between chain systems and independent grocery stores.

In New York City, as in Elmira, New York, honey purchased in small containers is a relatively expensive commodity, table 6. Consumers who bought honey in the individual 2-ounce glass jar paid at the rate of $1.20 per pound, and in the 5-pound tin pail only $0.23. The difference of ten cents between the price of honey in a 16-ounce tin and in a 16-ounce glass container, was apparently appreciated by honey consumers, who purchased over 19,000 pounds of honey in one-pound tin containers, and only 7,000 pounds in glass containers, table 5.

TABLE 6. AVERAGE COSTS AND SELLING PRICES FOR EXTRACTED HONEY IN CONTAINERS OF VARIOUS SIZES, 411 RETAIL STORES, NEW YORK METROPOLITAN AREA, 1926.

Size and type of container	Average cost per container	Average selling price per container	Average cost per pound to consumer	Gross retail margin		
				Per container	Per pound	Per cent
10-pound tin pail	$1.70	$2.40	$0.24	$0.70	$0.70	29.17
5-pound tin pail	0.86	1.17	0.23	0.305	0.061	26.07
2½-pound tin pail	0.50	0.65	0.26	0.153	0.061	23.46
16-ounce tin can	0.21	0.29	0.29	0.083	0.083	28.62
32-ounce glass jar	0.53	0.74	0.37	0.211	0.106	28.65
16-ounce glass jar	0.26	0.44	0.44	0.184	0.184	41.82
14-ounce glass jar	0.20	0.34	0.39	0.136	0.155	39.85
12-ounce glass jar	0.20	0.28	0.37	0.08	0.107	28.68
8-ounce glass jar	0.16	0.24	0.48	0.077	0.154	32.08
5-ounce glass jar	0.10	0.15	0.48	0.052	0.166	34.58
2-ounce glass jar	0.10	0.15	1.20	0.046	0.368	30.67

Consumers in the New York metropolitan district paid from 14 to 97 per cent more a pound for extracted honey than Elmira consumers, table 7. The greatest difference was on honey sold in the larger containers, such as the 2½-pound or 5-pound tin pails. Over 87 per cent of the honey sold in Elmira was purchased directly from producers, compared with 1.8 per cent in the New York Metropolitan district. In both cities, practically all of the smaller glass containers were purchased from wholesalers or jobbers, who

TABLE 7. RETAIL PRICES FOR EXTRACTED HONEY, ELMIRA, NEW YORK, AND NEW YORK METROPOLITAN DISTRICT, 1926.

Size and type of container	Average retail price per pound		Per cent New York City price was greater than Elmira price
	Elmira, New York	New York Metropolitan district.	
5-pound tin pail	$0.126	$0.234	86
2½-pound tin pail	0.132	0.26	97
32-ounce glass jar	0.238	0.37	56
16-ounce glass jar	0.314	0.44	40
12-ounce glass jar	0.293	0.373	27
8-ounce glass jar	0.42	0.48	14

had to incur the usual expenses incident to packing and distribution. In New York City, these costs were also incurred on the larger containers, but in Elmira producers sold the larger containers directly to retailers.

There was little difference in the prices of honey in the 8-ounce and 12-ounce glass jars in the two areas, but there were wide differences in the prices of that in 2½ and 5-pound tin containers. These differences in price were reflected in sales. In the New York metropolitan area, 7.4 per cent of the honey sales were in 8-ounce and 12-ounce glass jars, and in Elmira, New York, only 0.4 per cent. On the other hand, 93 per cent of the honey sales in Elmira were in 2½ and 5-pound tin containers, compared with 38.5 per cent in the New York metropolitan area. The difference between the cost of honey in an 8-ounce glass jar and that in a 5-pound tin pail was $0.294 per pound in Elmira and $0.246 in New York. The difference in price per pound in favor of the larger containers amounted to 233 per cent in Elmira and only 104 per cent in New York City.

Basis of Purchase of Honey

Four hundred and ten of the 411 stores purchased their honey on the basis of a known brand. Forty different brands were found in these stores, many stores carrying two or more brands.

Trend of Honey Sales

Forty-two of these stores reported a decrease in the honey sales in 1926 as compared with 1925; while 130 reported an increase, and 216 no change. Apparently there was little change in the demand for honey.

Competition with Other Sirups

Corn sirup seems to be the outstanding competitor of honey. Two hundred and eighty-five stores reported greater sales of corn sirup than honey in 1926. Eighty-one stores, however, sold more honey than corn sirup.

Maple sirup was sold in greater volume than honey in 188 stores, and in smaller volume in 108 stores. While maple sirup is undoubtedly a competitor of honey, its price is ordinarily as high or higher than that of honey. It is, therefore, a less serious competitor than corn sirup, which is only about one-half as expensive as either maple sirup or honey.

Cane sirup is sold in such small quantities as to be insignificant as a competitor of honey.

Nationality of Honey Consumers

The managers of these stores estimated that approximately 32 per cent of their customers who purchased honey were Americans. The remaining 68 per cent were made up of 17 nationalities of which the Jewish, Italian, Irish, German and Polish predominated. The term "American" undoubtedly includes some foreign-born citizens. These estimates confirm the contentions of wholesalers that foreign-born citizens are the larger consumers of honey. M. P. Rasmussen.

THE USE OF MANURE ON CHENANGO COUNTY DAIRY FARMS

509 RECORDS, 1921-1925

Profits in many industries are dependent upon an economical utilization of the by-products incident to manufacturing processes. On dairy farms, manure is a by-product of milk production. During the five year period, 1921-1925, a total of 125,269 tons of manure was produced on a group of Chenango County dairy farms. This was an average of 246 tons of manure per farm per year. Four tons of manure were available annually for each acre of crops grown. The heaviest applications of manure per acre were made on corn silage and cabbage, but more tons of manure were applied to mixed hay than to any other crop, table 1.

TABLE 1.—CROPS TO WHICH MANURE WAS APPLIED, ON CHENANGO COUNTY DAIRY FARMS. 1921-1925

	Corn silage	Mixed hay	Cabbage	Other crops	All crops
Acres grown	4,199	13,902	1,203	12,373	31,677
Tons of manure applied	40,840	54,728	10,347	24,354	125,269
Tons of manure per acre	9.7	3.9	8.6	2.0	4.0
Per cent of manure applied	33	44	8	15	100

The kinds of crops manured and rates of manuring on different farms varied widely. The results of various rates of manure application on mixed hay are shown in table 2. The application of 9.4 tons of manure per acre resulted in an increase of 0.6 tons of mixed hay more than was obtained when no manure was used. This is an increase of 38 per cent. The production of hay increased consistently with increased applications of manure.

TABLE 2.—RATES OF MANURE APPLICATION ON MIXED HAY, CORN SILAGE AND CABBAGE

Tons of Manure per acre	Number of records	Percentage of manure on			Commercial fertilizer per acre		Yield per acre			Tons of Manure per	
		Mixed hay	Corn silage	Cabbage	Corn silage	Cabbage	Mixed Hay, tons	Corn silage, tons	Cabbage, tons	Crop acre	Farm
Mixed hay											
0.0	71	0	61	12	$2.41	$7.21	1.6	11.5	9.4	3.3	192
2.0	164	36	42	8	2.63	8.00	1.6	11.0	9.5	3.1	196
4.7	130	54	27	9	2.68	8.67	1.8	11.9	11.6	4.1	271
9.4	140	56	21	7	2.97	8.05	2.2	12.4	10.4	5.0	307
Corn silage											
0.0	81	62	0	11	3.75	8.65	1.7	11.9	10.3	3.6	238
5.8	117	52	23	12	2.95	8.27	1.8	11.2	10.6	3.7	252
11.2	134	39	40	7	2.26	6.79	1.8	11.8	10.1	4.3	246
18.4	140	28	56	5	2.27	8.22	1.8	12.2	10.5	4.3	265
Cabbage											
0.0	140	49	41	0	2.10	7.55	1.8	11.8	9.2	3.7	226
8.4	98	44	26	12	3.19	7.47	1.9	11.9	9.6	3.9	245
13.0	71	42	26	19	3.60	8.71	1.8	11.7	11.1	3.9	251
19.8	60	35	30	20	3.79	8.95	2.0	12.1	12.6	4.7	324
Average		44	33	8	$2.71	$8.02	1.8	11.8	10.3	4.0	246

Important among the effects of placing manure upon hay land was the increased yield of subsequent crops. Where more than five tons of manure were applied per acre on mixed hay, the yields of all crops were above the average. With an application of 9.4 tons of manure per acre on mixed hay, the yield of hay was 25 per cent above the average. The yield of corn silage was 5 per cent above the average, even though the application of manure on corn silage was one-fourth less than average. The yield of cabbage was one per cent above the average, though the direct manure application on cabbage was slightly less than average. These results indicate that a very profitable use of manure is made when it is applied to mixed hay land.

Particularly on soils of an open nature with gravelly subsoils, the placing of the manure on hay land prevents loss of the elements of fertility by leaching or erosion. The manure is kept on the surface where it has a mulching effect and the dense sod takes up the elements of fertility as they become available. The resulting improved sod thus acts as a storehouse of fertility for subsequent crops.

The results of direct manure applications upon corn silage are confused by preceding applications upon other crops, particularly hay. Heavy applications of manure, averaging 18.4 tons per acre, on corn silage produced one ton more of silage than light applications of 5.8 tons, table 2. However, the farms that made light applications directly upon corn silage land were the farms on which more than the average amount of manure was put upon hay, hence a portion of the yield of silage, 11.2 tons, was the result of previous applications of manure.

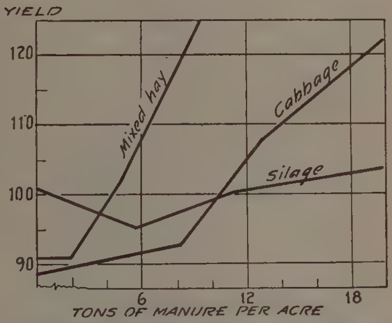

FIGURE 2. PER CENT CHANGE IN THE YIELD OF CROPS WITH CHANGES IN THE NUMBER OF TONS OF MANURE APPLIED

A 50 per cent increase in the application of manure above the average increased the yield of hay 9 per cent. A similar increase in the manure applied to cabbage increased the yield 12 per cent and on corn the increase was 3 per cent.

When no manure was used on corn land, $1.50 more was spent for commercial fertilizers than when large amounts of manure were applied.

Large amounts of manure may be profitably applied to cabbage. An application of 19.8 tons of manure per acre on cabbage gave a yield of 12.6 tons of cabbage, compared with 9.2 tons when no manure was used. This is an increase of 37 per cent or one-sixth of a ton of cabbage, for each ton of manure applied. The intensive cabbage growers used large amounts of both fertilizer and manure, the heaviest applications of manure were accompanied by the use of commercial fertilizer which cost $1.40 per acre of cabbage more than when no manure was applied.

On those farms where more than the average amount of manure was applied per acre of mixed hay, yields of hay 4 per cent, and corn silage 1 per cent, above the average of this group were obtained. When corn silage received the major portion of the manure, yield of the crops other than silage were decidedly below normal. When double the average amount of manure was placed on cabbage, yields of cabbage 7 per cent above normal were obtained, table 3.

Manure applied to mixed hay gave a larger per cent increase in yield per ton of manure than similar applications on cabbage or corn silage, figure 1. It required twice as much manure per acre to produce a given per cent increase in the yield of cabbage as of mixed hay. On the other hand cabbage at average prices had a value per acre of four times that of mixed hay, hence the manure applications on cabbage were the more profitable. Corn silage responded sparingly to increased applications of manure.

TABLE 3.—CHANGES IN CROP YIELDS WITH CHANGES IN THE AMOUNT OF MANURE APPLIED TO DIFFERENT CROPS. 1921-25

Crop	Crop yields on farms where more than a normal amount of manure was applied to: Mixed hay*	Corn silage†	Cabbage‡
Corn silage	101	100	99
Mixed hay	104	95	100
Cabbage	100	93	107
Number of farms	270	274	131
Tons of manure per farm	289	255	284
Tons of manure per crop acre	4.6	4.3	4.3

* Those farms applying more than the average amount of manure on hay spread 55 per cent on hay; 24 per cent on corn silage; 8 per cent on cabbage and 13 per cent on other crops.

† Those farms spreading more than the average amount of manure on corn silage, placed 48 per cent of the total manure on corn silage; 33 per cent on mixed hay; 6 per cent on cabbage and 13 per cent on other crops.

‡ Those farms spreading more than the average amount of manure on cabbage, placed 20 per cent of the total manure on cabbage; 28 per cent on corn silage; 38 per cent on mixed hay and 14 per cent on other crops.

Those farmers who applied 4.45 tons of manure per acre to hay, increased their yields 16 per cent. Based on these increases, manure was worth 50 cents per ton. This does not take into consideration the residual value of the manure to subsequent crops, table 4.

TABLE 4.—VALUE OF MANURE PER TON APPLIED TO DIFFERENT CROPS

	Corn Silage		Mixed hay		Cabbage	
	No manure directly on corn	Manure directly on corn	No manure directly on hay	Manure directly on hay	No manure directly on cabbage	Manure directly on cabbage
Number of farms	81	391	71	434	140	229
Manure per acre, tons	0	11.70	0	4.45	0	12.63
Yield per acre, tons	11.88	11.73	1.64	1.78	9.23	10.80
Value of crop per ton	$ 6.00	$ 6.00	$16.00	$16.00	$ 12.00	$ 12.00
Value of crop per acre	$71.28	$70.38	$26.24	$28.48	$110.76	$129.60
Commercial fertilizer per acre	$ 3.75	$ 2.50	0	0	$ 7.56	$ 8.24
Value of crop per acre less fertilizer cost	$67.53	$67.88	$26.24	$28.48	$103.20	$121.36
Difference in value per acre due to manure		$ 0.35		$ 2.24		$ 18.16

A low value for manure applied directly to corn silage is due in part to the fact that corn silage is largely grown on sod land or land manured the year previous. Hence these data show a comparison between direct application of manure and application on some previous crop.

P. H. STEPHENS

COSTS OF OPERATING CREAM PLANTS

Although the number of cream plants in the New York milk-shed has been decreasing with the increased demand for fluid milk, several still ship cream thruout most of the year to the fluid-cream market. Some ship fluid milk for a short time in the season of low milk production. The amount of cream made into butter is rapidly decreasing in this region. The costs given in this article are the result of a study of six cream plants which sold the skimmilk obtained in the separating operation. Of the total amount of milk received at these plants, 78 per cent was separated for cream, 16 per cent was shipped as raw milk, and 6 per cent as pasteurized milk.

The operations of a cream plant consist of receiving the milk each morning from the farmers; weighing, sampling, and separating it; pasteurizing, cooling, and canning the cream obtained; disposing of the skimmilk; and washing both the farmers' cans, and the cans returned from the city.

The cream shipped from these plants usually contained about 40 per cent butterfat.

In the six cream plants, the average cost of handling a forty-quart can of cream was $2.07, or 21.7 cents per hundred pounds of milk received. The total operating cost averaged $22,566.34 per plant, table 1. The average receipts at these plants were about twice the average receipts for 1924.

TABLE 1. COST OF OPERATING CREAM PLANTS SELLING SKIMMILK, 6 CREAM PLANTS
Average annual receipts of milk 10,405,814 pounds

Items of cost	Amount per plant	Per cent of total	Cents per 100 pounds of milk received
Land and buildings	$3,382.97	15.0	3.3
Equipment	4,045.52	17.9	3.9
Direct labor	8,946.65	39.7	8.6
Supplies	4,496.83	19.9	4.3
Miscellaneous	1,694.37	7.5	1.6
Total	$22,566.34	100.0	21.7

All items of cost per hundred pounds of milk received, except miscellaneous costs, decreased with increasing volume of receipts, table 2.

In the 5 plants which were owned by the operating companies the average replacement value of the land, buildings, and equipment was $51,097.05, or 43 cents per hundred pounds of milk received. The land valuation constituted 1.4 per cent, the building valuation 50.3 per cent, and the equipment valuation 48.3 per cent, of the total valuation. The annual building expense, (including maintenance costs, interest on investment and the like) amounted to 15.0 per cent of the replacement value of the buildings, and the annual equipment expense, 18.3 per cent of the replacement value.

TABLE 2. RELATION OF VOLUME OF MILK RECEIVED TO COST PER 100 POUNDS 6 CREAM PLANTS

	Volume of milk received during year	
	Less than 10,000,000 pounds	10,000,000 pounds and over
Number of plants	3	3
Average receipts per year pounds	5,665,909	15,145,720
	Costs of handling one hundred pounds of milk, in cents.	
Land and building	4.1	3.0
Equipment	4.7	3.6
Direct labor	9.9	8.1
Supplies	6.3	3.5
Miscellaneous	1.3	1.8
Total	26.3	20.0

The average annual cost of handling the cream was $13,228.90, or 58.6 per cent of the total operating cost. The corresponding cost of handling the milk was $9,337.44, or 40.8 cents per hundred pounds of milk shipped. As in the case of fluid-milk plants, labor was the most important item of cost, constituting 40 per cent of the total.

The costs of operation did not increase as rapidly as the volume of product handled. The average operating cost in plants which handled less than 10,000,000 pounds was 26.3 cents per 100 pounds and over 10,000,000 pounds, 20.0 cents per 100 pounds of milk received. With an increase of 167 per cent in the average annual receipts per plant, there was an increase of only 103 per cent in the total operating cost.

The labor cost per hundred pounds of milk received decreased least rapidly and the cost of supplies most rapidly, as the receipts of milk per plant increased.

The most expensive operation in the production of cream at the six plants was the separating of the milk. It amounted to 22 per cent of the total operating cost, or 46 cents per forty-quart can of cream, table 3.

TABLE 3. COST OF CREAM HANDLING PER 40-QUART CAN OF CREAM, 6 Cream Plants

Operation	Cost per can
Receiving	$0.32
Washing farm cans	0.34
Washing city cans	0.05
Separating	0.46
Pasteurizing	0.12
Cooling	0.12
Canning	0.02
Storing	0.11
Shipping	0.07
Icing shipments	0.01
Babcock testing	0.02
By-products	0.23
Record keeping	0.11
City-can storage	0.01
Supervision	0.08
Total operating cost	$2.07

Washing the farm cans and receiving the milk were the next most important items. The magnitude of these two cost items is due to the fact that there was approximately ten times as much milk handled before separation as there was cream handled afterwards. C. K. Tucker

THE AGRICULTURAL SITUATION IN POLAND

The republic of Poland consists of three divisions that, prior to the World War, were within the boundaries of three different empires. For more than a century, each division belonged to the particular political unit of which it was a part, Germany, Austria or Russia. These divisions were united under the regulations of the peace treaty of Versailles.

Before the war, differences in economic development caused important variations in the general price level in the German, Austrian and Russian parts of Poland.

The data given in Table 1 indicate the differences in wholesale prices which prevailed in the Polish divisions prior to the war. For comparison, prices have been expressed in per cent of Poznan prices.

TABLE 1. INDEX NUMBERS OF PRICES IN GERMAN, AUSTRIAN AND RUSSIAN DIVISIONS OF POLAND PRIOR TO THE WAR
(Poznan prices = 100.)

Division	Index numbers						
	Rye	Wheat	Barley	Oats	Potatoes	Beef cattle	Hogs
German Poland (Poznan)	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Austrian Poland (Lemberg)	78.6	87.5	84.4	78.8	87.8	89.6	85.1
Russian Poland (Warsaw)	67.4	76.0	79.7	68.2	50.5	53.0	68.6

In pre-war days, farmers of the German division of Poland had the benefit of a high protective tariff on grain. Farmers of the Austrian divison had a protective tariff, but it was much lower than in the German division. Farmers of the Russian division were not protected by tariff, and were, therefore, subject to severe competition, due to a very low preferential freight rate on grain from the interior of Russia to Warsaw. Prices were highest in the German division, and lowest in the Russian division.

In the German and Austrian parts of Poland, prices of potatoes, beef cattle and hogs were more nearly alike than were prices of grains. In general, grain prices in the Austrian division approximated more closely the Russian than the German prices.

The prices of industrial articles varied in the three divisions in a similar way. Farmers of the German province had the advantage of cheap industrial products, including farm machinery. The farmers in the Austrian division again occupied an intermediate position, while the farmers of the Russian division paid high prices for the articles they purchased. They did not have large industrial plants, so maintained high tariffs on manufactured goods.

Prior to the war, agriculture in the German part of Poland was very prosperous. With their farms almost at the gates of Berlin, farmers sold their products at very satisfactory prices and purchased their implements and industrial articles at reasonable rates. These conditions stimulated agricultural production and resulted in the adoption of most intensive farming methods. Farmers in the Austrian part of Poland were less fortunate, but farmers of the Russian division were again least favorably situated.

During the war period, Polish farmers as a whole, and particularly those of the Russian division, were very prosperous. Though there was a governmental grain monopoly and a policy of fixing prices of agricultural products, the peasants fared well, as the government was unable to enforce its price policy. The large holders did not fare so well.

With the creation of the Polish state, there was a striking change in the agricultural situation. The government was influenced to a great extent by labor unions, which, though not numerous, were powerful. They developed an economic policy enabling the city worker to get his food as cheaply as possible. Furthermore, industrial employers, especially those of the Russian division, were a strong factor in the newly-created republic. During the war, its factories were closed, for they could not meet the unrestricted German competition that followed the invasion of Russia by the Central Powers. Their former market, the Russian Empire, had ceased to exist. The leading interests, both workers' unions and employers, agree that Poland should be industrialized, and that the new government should do everything to promote industry.

The war-time economic policy was continued. The governmental grain monopoly was upheld. The frontiers were closed to all exportation of food and industrial importation was restricted. Simultaneously inflation was going on, which compelled Polish peasants to buy at prices which absorbed their war savings while they were still of some value. This furnished a wide domestic market for industry and created an artificial boom in almost every city business.

With the continued inflation, war savings were finally exhausted, and the peasants gradually ceased to buy. Polish industries then dumped industrial articles on foreign markets. At the same time, industrial concerns obtained favorable loans by means of cheap inflation credits maintained by the central bank for industrial purposes. As similar credits were not extended to farmers, agriculture obtained no relief, even after the abolishment of the grain monopoly. Farmers were obliged to sell their products to meet expenses. Since they could not sell them abroad because of export restrictions, they were forced to rely on home markets. At the same time, however, they had to buy industrial products at comparatively high prices because of the tariff. Thus, during the period of inflation, the purchasing power of agricultural products in Poland steadily declined. This is contrary to the experience of Germany, the United States and most other countries.

Both 1922 and 1923 were years of increasing inflation, which reached its climax at the end of 1923, stopping suddenly. During this period, grain prices were considerably below the Liverpool and Rotterdam level. Prices of beef cattle and hogs were also lower than corresponding world prices.

Post-war index numbers of the price of rye, wheat, and beef cattle, in each of the three divisions of Poland, are given in table 2. The greatest fall in prices took place in the German division. Prices fell least in the Russian division.

TABLE 2. INDEX NUMBERS OF THE PRICE OF RYE, WHEAT AND BEEF CATTLE IN THE GERMAN, AUSTRIAN AND RUSSIAN DIVISIONS OF POLAND, 1922-1925.

Period	Rye			Wheat			Beef Cattle		
	German Division Poznan	Austrian Division Lemberg	Russian Division Warsaw	German Division Poznan	Austrian Division Lemberg	Russian Division Warsaw	German Division Poznan	Austrian Division Lemberg	Russian Division Warsaw
1909-13	100	100	100	100	100	100	100	100	100
1922	64	78	99	79	83	112	28	—	55
1923	51	65	82	71	78	95	46	61	78
1924	70	87	100	86	100	128	68	71	134
1925	109	149	176	117	138	171	55	73	117

The price of potatoes, which is the main agricultural product of Poland, is shown in table 3.

TABLE 3. PRICES AND INDEX NUMBERS OF POTATOES, GERMAN, AUSTRIAN AND RUSSIAN DIVISIONS OF POLAND, 1922-26.

Period	Prices per bushel			Index numbers		
	German Division Poznan	Austrian Division Lemberg	Russian Division Warsaw	German Division Poznan	Austrian Division Lemberg	Russian Division Warsaw
	cents	cents	cents			
1912-13	31.4	27.5	15.8	100	100	100
1922	18.5	15.5	20.2	59	56	128
1923	6.8	7.6	7.9	22	28	50
1924	17.7	19.6	20.5	56	71	129
1925	14.5	20.5	14.7	46	74	93
1926 (6 months only)	11.5	18.0	14.7	37	65	93

Since potatoes are bulky, prices decline most in surplus areas. For this reason, there was a considerable drop in the German division, which lost its important Berlin market. The movement of hay prices was similar to that of potatoes. Prices in the densely populated district of Lemberg were not affected as seriously.

The purchasing power of agricultural products was lowest at the beginning of the deflation period. As a matter of fact, the year 1924 was the most severe for the farmers of Poland. Since that time, there has been a general upward movement in the prices of agricultural products.

The recovery of the purchasing power of agricultural products has been primarily due to the removal of export restrictions, which could not be maintained as they tended to make the balance of trade unfavorable. The lowering of interest rates on loans has been of equal importance in the improvement of the farmers' situation. During the first part of the deflation period, interest rates on private loans (which were practically the only ones available to farmers) were as much as 15 per cent monthly. With the improvement of the political situation during 1925 and 1926, these interest rates dropped to 24 per cent annually, and a further lowering may be expected.

S. SCHMIDT

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FARM ECONOMICS

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BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	191	173	236	281	83
Jan. 1927	150	142	130	145	171	194	175	237	252	96
Feb.	149	142	132	145	171	191	174	237	258	95
Mar.	148	142	131	142	172	193	173	240	261	90
Apr.	147	147	130	143	172	200	173	235	264	93
May	147	167	132	146	172	192	174	235	273	94
June	146	172	134	149	172	182	173	235	275	93
July	147	161	137	148	167	186	171	233	280	85
Aug.	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Jan., 1928	149	148	141	143	168	193	172	236	318	89
Feb.	149	148	138	142	168	193	170	235	316	95
Mar.	149	149	141	143	168	192	166	239	327	90
Apr.	151	152	145	147	170	196	166	232	340	97
May	153	164	153	157	172	186	170	235	347	101
June	151	169	150	156	170	183	168	238	334	107
July	152	164	152	156	170	189*	168*	235	336	103
Aug.	153	152	145	151	171	189*	170*	237	347	97
Sept.		152	146	154					365	93*

*Preliminary figure will be revised later.

(Footnotes continued on next page.)

BUSINESS CONDITIONS

During the first two quarters of this year, business conditions were unsettled. During the third quarter, July, August and September, there has been considerable improvement. Urban conditions during the remainder of 1928 will probably be more favorable than during 1927.

During August and September new high records were established for prices of industrail stocks, volume of building contracts, automobile output, sales of copper, production of agricultural machinery, and shares traded on the New York Stock Exchange. Conditions are less satisfactory in the coal, oil, and textile industries.

The index numbers of prices of 70 industrial stocks reached a new high level of 365, for September. Wholesale prices of all commodities have been more or less stable, but advanced somewhat during July and August. Retail prices of food, costs of living, and wages advanced in August.

Farm Prices in the United States

Farm prices in the United States rose from 138 in February to 153 in May. This striking advance was due to an increase in prices of almost every farm product.

During May, June and July, farm prices in the United States were fairly stable. From July to September, the index numbers of farm prices declined from 152 to 146. The index numbers of 13 products fell; 8 rose; and 2 did not change.

From July to September the index number of prices of beans declined 37 points; barley, 34; wheat, 27; potatoes, 24; cotton, 21; and buckwheat, 13. Hogs advanced 14 points; lambs, 12; veal calves and eggs, 10; sheep, 7; and beef cattle, 14.

The large corn crop has caused a striking decline in prices and this will probably continue, as indicated by the crop and by future prices. When compared with pre-war prices, oats and barley are much cheaper than corn.

Wheat prices are far below those of last year. In September, the average farm price of wheat was 94 cents per bushel, or only 8 per cent above pre-war prices.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities is converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20 ,1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February, 1927.

[4] Cost of assembling, transporting, processing and distributing food. For methods of calculation, see Farm Economics, No. 50, p. 830, Jan., 1928.

[5] The index numbers for December and June are those published by the United States Bureau of Labor Statistics. Intervening months bear the same ratio to these figures that Snyder's index for the intervening months bears to his figures for June and December. Both index numbers use 1913 as 100, but Snyder's shows that the five-year period, 1910-14, also averages 100.

[6] Data furnished by the Department of Labor of New York. Union wage rates, in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[7] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[8] Data for prime comercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

Cotton prices are 44 per cent above pre-war. While these prices are low, they are higher than grain prices.

The several years of fairly good prices for potatoes resulted in over planting this year in spite of the warnings given by the United States Department of Agriculture and the Agricultural Colleges. Without these warnings, an even more serious over-production would have occurred.

At September farm prices, potatoes were 19 per cent below the 5-year pre-war average. This resulted in heavy losses in potato sections.

Dairy products and all meats, except hogs, are selling well and hogs are rising in price. Chickens, butter, milk, cows, beef cattle, veal calves, sheep, lambs and wool are all selling at prices that are higher than the index of the cost of living. Farmers who depend primarily on these products are prospering. Producers of hogs and eggs are fairly prosperous when the low price of feed is considered.

The producers of grain and potatoes are generally not prosperous.

The September index numbers of prices paid to farmers for all foods was 54 per cent above the pre-war level. In August, food retailed at prices 71 per cent above pre-war. Food is just about as expensive as other items in the cost of living, but the cost of distributing food is 89 per cent above pre-war so that farmers receive only 54 per cent above pre-war.

Farm Prices in New York State

The index number for New York farm prices is 52 per cent above pre-war. Potatoes, grain and hay are very cheap. The general farming region which depends largely on these crops is in serious distress. This includes some of the best land in New York State.

Wholesale Prices of Feed

During the past four months, there has been a striking decline in wholesale prices of feed in straight cars at Utica, New York. The average price of a dairy ration declined from $49.66 in May, to $41.97 in September. The average price of a poultry ration fell from $52.89 to $44.58. The price of cottonseed meal fell $20.00 per ton; ground oats, $18.00; wheat bran, $12.00; middlings, $11.00 and wheat-mixed feeds, $10.00.

The index numbers of prices of feeds in September are uniformly below those prevailing last spring. Since that time, the index numbers of prices of cottonseed meal declined 69 points; ground oats, 52; standard middlings, 51; wheat bran and white hominy, 42. The index number of a dairy ration declined 35 points and the poultry ration 31 points.

The September index number of a dairy ration, 138, is below the index numbers of the New York farm price of milk, 177; butter, 170; veal calves, 166.

The September index number of a price of a poultry ration, 135, is below the index numbers of farm prices of chickens, 171; and eggs, 159.

G. F. Warren and F. A. Pearson

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
Average	64.8	39.9	88.0	61.7	73.3	168.8	2.26	12.4	11.94	112	69.6	87.6
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	60.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06		185.7	156.3
1927	78.8	44.9	120.5	67.1	88.4	195.9	3.07	15.9	12.00	...	132.3	114.0
1927												
September	95.3	43.9	119.2	69.5	92.3	197.1	3.26	22.5	10.51	...	107.4	121.9
October	87.6	44.6	113.7	66.8	82.9	191.2	3.08	21.0	10.63	...	97.9	98.1
November	73.7	45.1	111.4	66.8	79.4	184.2	2.95	20.0	10.54	...	95.4	86 5
December	75.1	48.1	113.9	71.5	81.0	185.3	3.01	18.7	10.55	...	94.1	91.9
1928												
January	75.2	49.3	115.2	73.6	82.0	188.4	3.11	18.6	10.60	...	93.6	93.4
February	79.0	51.3	116.2	75.4	85.2	189.9	3.44	17.0	10.24	...	96.2	98.6
March	86.2	54.5	121.6	79.4	90.2	194.8	3.86	17.8	10.19	...	113.2	109.6
April	91.9	56.9	129.2	81.3	94.8	198.4	4.26	18.7	10.29	...	116.8	115.1
May	102.5	62.0	144.3	84.5	102.3	210.5	4.35	20.1	10.70	...	103.3	121.4
June	102.2	61.4	132.0	81.7	109.0	209.0	4.46	19.7	11.01	...	83.6	124.7
July	102.4	56.2	118.1	97.6	108.0	195.5	4.61	21.0	10.86	...	77.9	119.5
August	98.2	38.4	95.2	58.9	98.1	181.7	4.27	18.8	10.39	...	73.1	131.0
September	95.1	36.7	94.4	54.1	92.6	181.6	3.74	17.6	10.59	...	64.8	120.9

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1927	122	113	137	109	121	116	136	128	101	...	190	130
1927												
September	130	112	136	118	124	115	142	184	90	...	134	131
October	125	114	130	111	114	114	136	174	91	...	141	115
November	116	117	127	111	111	114	132	165	91	...	159	113
December	129	124	132	118	114	120	131	153	85	...	155	127
1928												
January	129	128	132	120	116	116	138	151	90	...	149	119
February	133	130	130	118	120	111	155	139	85	...	146	118
March	142	136	137	126	128	112	177	144	85	...	169	125
April	148	140	145	126	131	115	195	151	85	...	172	124
May	158	150	161	130	140	119	192	160	87	...	148	124
June	151	147	145	127	144	119	193	155	89	...	120	130
July	148	135	135	126	137	117	200	165	91	...	105	130
August	138	96	112	103	126	106	186	150	90	...	82	135
September	130	94	108	92	124	106	163	144	91	...	81	130

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.85	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1927												
September	131	78	19.4	29.4	41.7	76.10	7.42	10.78	7.06	11.14	31.2	9.78
October	135	77	19.7	35.6	43.4	78.62	7.55	11.04	7.05	11.22	30.9	10.16
November	142	75	19.4	41.6	44.5	81.09	8.00	10.67	7.42	11.42	31.1	8.99
December	152	75	19.2	43.3	45.7	82.36	8.32	10.71	7.38	11.39	32.0	8.14
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62
March	177	85	20.1	23.4	43.9	87.95	8.81	11.34	7.85	12.31	35.4	7.48
April	183	85	20.8	22.8	44.0	88.55	8.92	11.18	8.11	12.73	35.6	7.75
May	191	86	21.5	24.2	42.0	89.00	9.09	11.18	8.09	13.03	37.0	8.82
June	189	86	21.5	23.9	42.2	89.90	9.10	11.56	7.84	13.18	38.7	8.70
July	156	85	21.9	25.6	42.4	90.37	9.19	11.87	7.56	12.25	37.6	9.64
August	106	84	21.6	27.4	42.8	90.43	9.51	12.32	7.53	11.88	37.0	10.01
September	97	82	22.3	31.4	44.3	92.56	9.96	13.05	7.58	11.97	36.5	11.17

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1927												
September	187	56	163	152	169	154	139	153	162	198	180	129
October	196	56	167	160	168	158	142	157	164	204	181	138
November	196	55	170	163	167	162	154	154	174	209	181	129
December	197	55	178	144	161	165	159	155	169	201	185	121
1928												
January	167	55	183	129	159	176	168	160	163	196	179	111
February	163	57	184	111	161	181	171	167	167	200	186	107
March	163	59	179	109	169	180	167	164	164	198	189	101
April	160	58	181	133	173	179	162	165	160	197	198	102
May	156	60	182	145	170	180	165	170	163	202	208	122
June	154	59	182	143	180	181	167	171	165	209	221	122
July	152	60	184	153	185	184	172	176	166	201	215	133
August	134	60	180	159	181	183	177	179	170	210	208	134
September	138	59	187	163	179	187	186	186	173	213	211	147

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.80	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1927										
September	113	51	129	82	96	3.66	10.90	125	130	127
October	105	53	126	81	85	3.60	11.00	115	130	127
November	98	53	126	80	82	3.60	10.50	120	145	126
December	100	55	128	84	83	3.60	10.20	120	160	125
1928										
January	96	56	128	82	83	3.90	10.20	120	160	123
February	102	58	129	85	87	4.02	9.70	115	175	128
March	105	61	141	90	95	4.47	9.80	130	195	132
April	112	66	153	98	97	4.92	9.80	135	195	136
May	119	76	180	105	105	5.10	9.90	130	200	135
June	118	77	172	110	115	5.28	10.30	100	200	140
July	115	76	160	99	118	5.34	9.70	75	220	137
August	115	60	129	90	104	5.13	9.70	75	120	135
September	116	51	131	77	94	4.74	10.00	80	95	132

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1927										
September	140	104	134	108	126	148	72	140	210	72
October	133	113	130	108	115	148	72	167	213	72
November	127	115	130	107	114	149	70	214	223	72
December	133	117	131	112	115	148	67	188	216	71
1928										
January	133	124	129	109	117	167	67	188	198	71
February	144	123	129	113	121	172	64	167	201	73
March	148	130	141	117	134	194	63	191	217	75
April	158	135	153	127	133	216	64	196	189	75
May	163	152	180	133	140	217	63	181	177	76
June	157	151	169	138	149	226	63	143	204	78
July	151	149	158	127	140	221	61	109	250	78
August	149	118	134	117	128	209	66	85	174	76
September	143	104	136	101	124	192	66	90	153	75

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5 90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	43.2	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1927												
September	24.8	40	52.3	49	2.80	113.00	12.80	6.60	5.70	11.60	35	10.60
October	23.9	48	64.5	50	2.93	117.00	13.20	6.80	5.60	11.20	35	10.50
November	24.2	59	65.8	50	3.07	121.00	13.00	6.40	5.50	11.40	36	10.20
December	24.5	56	53.5	52	3.04	121.00	12.80	6.80	5.50	11.90	38	9.40
1928												
January	24.8	46	49.1	51	2.95	123.00	12.90	6.80	6.00	11.60	37	9.00
February	25.5	40	38.4	50	2.85	127.00	13.20	7.10	6.10	12.50	38	8.90
March	26.8	32	33.7	50	2.53	130.00	13.20	7.00	6.30	13.00	39	8.60
April	26.3	28	32.8	50	2.30	128.00	12.60	7.50	6.30	13.00	42	8.60
May	26.6	26	33.9	49	2.21	123.00	12.20	7.50	5.90	13.20	42	9.40
June	27.1	30	35.6	48	2.11	124.00	12.90	7.60	6.00	14.40	44	9.40
July	26.3	33	38.3	49	2.33	126.00	13.20	7.60	6.70	12.90	43	9.70
August	26.3	38	42.6	49	2.68	124.00	13.70	7.80	6.10	12.50	43	10.30
September	26.6	43	50.9	51		128.00	14.50	8.20	5.90	12.40	44	11.40

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	216
1920	225	218	215	206	220	189	188	151	193	214	200	189
1921	199	168	168	152	155	127	127	101	108	140	95	119
1922	186	143	148	135	133	120	122	96	118	169	143	110
1923	174	146	144	158	150	130	128	99	131	184	195	104
1924	160	139	144	148	128	121	130	100	136	187	200	111
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	160
1927	173	136	126	161	166	196	146	116	140	187	162	153
1927												
September	159	148	143	163	176	197	147	117	140	188	167	134
October	154	160	143	161	164	209	149	119	138	187	167	133
November	167	169	120	156	163	215	148	117	140	189	171	137
December	178	137	109	153	159	214	146	125	127	193	181	128
1928												
January	182	121	124	150	155	229	152	129	144	181	168	121
February	182	125	113	152	157	234	158	134	145	195	173	119
March	189	114	130	161	151	232	158	135	147	201	186	111
April	178	133	146	167	158	227	163	140	138	191	200	110
May	179	137	149	169	186	221	166	133	137	202	210	124
June	178	150	145	171	197	218	164	138	142	217	220	127
July	173	150	141	181	185	223	162	139	161	196	205	130
August	166	152	138	175	177	219	162	138	142	198	215	133
September	171	159	139	170		224	166	145	145	201	210	144

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time. add 5 cents to the net pool price. (+8c for fat −3c for freight).

Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Standard midl'gs	Wheat mxd feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26.66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29.18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34.00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40.33	44.09
1927												
September	45.15	40.60	44.50	41.95	33.63	37.63	.....	52.30	47.10	81.30	41.31	45.11
October	42.29	41.10	41.38	42.48	33.38	34.50	36.88	52.30	47.63	84.80	40.95	43.91
November	42.47	41.30	39.70	43.66	35.75	36.25	37.20	51.50	49.80	79.80	41.76	43.87
December	43.30	41.98	43.50	46.08	37.81	37.63	38.69	51.80	52.23	79.80	43.31	44.81
1928												
January	42.92	43.60	42.40	46.34	38.70	38.60	39.80	53.30	54.80	76.80	44.31	44.56
February	45.13	44.60	42.00	47.08	40.75	40.81	40.81	54.55	55.85	75.80	45.56	45.86
March	45.85	44.60	42.50	48.55	44.25	43.88	44.56	56.93	59.38	74.80	47.22	47.87
April	46.83	44.60	43.13	50.46	41.94	41.94	45.63	58.13	64.51	74.30	47.82	49.06
May	48.32	44.60	47.30	53.86	43.15	45.20	46.25	57.70	70.70	75.80	49.66	52.89
June	46.56	44.60	45.00	54.00	36.94	42.56	44.00	56.33	70.00	75.80	48.07	50.86
July	47.49	44.60	44.50	53.72	34.85	39.94	42.50	54.50	60.98	75.80	46.58	49.45
August	47.25	45.43	43.00	37.85	31.50	31.88	38.25	54.70	55.00	75.80	42.65	44.96
September	46.48	45.80	41.25	36.40	31.94	34.25	36.13	54.58	50.18	75.80	41.97	44.58

Index Numbers (Corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Standard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1927												
September	138	133	142	130	136	139	...	148	138	154	136	137
October	137	143	140	137	141	134	141	152	149	159	142	136
November	141	145	138	140	149	144	143	151	158	149	146	138
December	150	142	155	148	153	148	146	151	166	149	149	141
1928												
January	156	144	152	149	149	148	148	154	167	148	150	143
February	165	146	152	148	155	156	151	157	174	145	154	146
March	172	152	159	153	169	168	164	171	186	143	163	153
April	169	160	164	156	163	163	172	174	198	142	167	155
May	168	163	174	165	171	177	177	174	216	145	173	166
June	163	162	164	163	159	171	173	175	213	145	169	160
July	161	169	161	160	149	154	167	169	185	145	165	154
August	150	154	145	114	127	117	145	159	161	145	142	137
September	142	150	132	113	129	126	135	154	147	143	138	135

COSTS OF HAULING MILK ON COMMERCIAL ROUTES

In a recent study of milk hauling from farms to county plants, data were obtained relative to the costs of operating seventy-six commercial routes. Seventeen of these haulers used horses and wagons exclusively and fifty-nine used trucks, except when excessive snow or mud made it necessary to use horses. A summary of the costs and other data for these routes is given in table 1.

TABLE 1. SUMMARY OF COSTS OF OPERATING COMMERCIAL ROUTES FOR HAULING MILK

	Haulers using horses	Haulers using trucks	All haulers
Number of haulers	17	59	76
Number patrons per route	13	16	15
Number stops per trip	11	12	12
Number pick-ups at door	11	11	11
Number patrons delivering at platforms	2	5	4
Average haul to platform	1.1	1.1	1.1
Number trips a year:			
with horses	368	79	144
with trucks	—	364	283
Total:	368	443	427
Average haul, miles;			
improved road	1.9	5.5	4.9
unimproved road	2.2	1.8	1.9
Total:	4.1	7.3	6.8
Number miles per trip	11.2	17.2	16.1
Number hundredweight of milk per trip	17.0	21.8	20.9
Cost per trip:			
driver	$1.46	$1.35	$1.37
horse labor	1.36	.34	.54
wagon and harness	.21	.06	.09
truck	—	2.03	1.64
Total:	$3.03	$3.78	$3.64
Cost per hundredweight	$0.1777	$0.1729	$0.1736
Cost per hundredweight—mile	$0.0427	$0.0239	$0.0257
Income per trip	$2.37	$3.86	$3.57
Income per hundredweight	$0.1392	$0.1769	$0.1709
Net return per hour of human labor	$0.1568	$0.4338	$0.3734

The average cost of hauling one hundred pounds of milk on all the routes was 17.36 cents compared with an average cost of 25.1 cents for 204 dairymen who hauled their own milk. The average hauling distance for these dairymen was only 2.5 miles compared with 6.8 miles for the dairymen who sent their milk on commercial routes.

Human labor was charged at the rate of 35 cents an hour for the dairymen hauling their own milk, while the average labor charge on the commercial routes was 39.3 cents. The rate for horse labor was about 17 cents an hour in each case.

The average charge for hauling on the commercial routes was 17.1 cents per hundred pounds. In a number of instances part of the hauling charge was paid by the companies operating the plants. The payments by the milk companies amounted to an average of 2.1 cents per hundred pounds or 12 per cent of the total amount received by the haulers. In addition to the financial assistance given to the haulers, the plants often help to keep the roads open in winter.

In general, horses were used on the routes having a large proportion of dirt road. The haulers who used horses had shorter routes and hauled smaller loads of milk than the other haulers. Their average cost per trip was less but their cost per hundred pounds of milk was slightly higher.

They received nearly 5 cents less per hundred pounds of milk for their services, and their net returns per hour of human labor, after deducting all other costs from the total income, was only 15.7 cents, compared with 43.4 cents for the haulers who used trucks.

The detailed cost figures indicate that the saving in human labor by using trucks was considerably more than the difference between the cost of horse labor and equipment and cost of truck operation.

Most of the trucks used on these milk routes also were used for other purposes. An estimate was obtained of the proportion of time each truck was used for hauling milk and for other business and the total truck cost was apportioned on this basis. Most of the haulers derived some income from hauling feed, skim milk or other materials to the farms at the time of returning the empty milk cans. The amount of this income was not ascertained in all cases, but probably it would not average more than $10 per route for the year.

A number of dairymen, who sent their milk on these routes, hauled it some distance to a main road where it was picked up by the hauler. On the average, four out of each fifteen dairymen did such hauling, the average distance being 1.1 miles. Nearly all of this hauling was on dirt roads.

The conclusions reached from this study are that commercial hauling generally is much cheaper than individual hauling if human labor and horse labor are worth as much to the farmer as to the commercial hauler, and that commercial hauling can be done more economically with trucks than with horses wherever the condition of the roads is favorable to the use of trucks. It is apparent that improved roads and snow removal are important factors in the reduction of hauling costs.

Leland Spencer

COSTS OF OPERATING TRACTORS ON NEW YORK FARMS

Records of the costs of operating tractors and effects of tractors on farm organization for the crop year 1926 were obtained on 175 farms[1].

Costs of operating 181 tractors on 175 farms, exclusive of the operator's time, are shown in table 1.

TABLE 1. COSTS OF OPERATING FARM TRACTORS IN NEW YORK. 1926

Item	Average cost per tractor	Average cost per hour of tractor work	Per cent of total cost without operator
Depreciation	$97.20	$0.311	36.18
Fuel (1.72 gallons per hour)	88.39	0.282	32.90
Interest	25.82	0.082	9.62
Lubrication	25.34	0.080	9.43
Repairs and mechanic's labor	16.23	0.053	6.04
Other costs (farm labor, insurance, auto use, storage)	15.65	0.049	5.83
Total cost without operator	268.63	0.857	100.00
Average number of hours worked	313.1		

The average cost per hour, exclusive of operator's time ranged from 78.4 cents on fruit farms to 91.1 cents on dairy farms.

The annual use of the tractor ranged from 194.2 hours on dairy farms to 405.1 hours on general crop farms. In a similar study[2] on 87 farms in 1920, the average cost of operation, exclusive of operator's time, was $1.161 per hour of tractor work for an annual use of 425 hours. Improved models of tractors better adapted to New York farm conditions and better dealer service to tractor owners resulting in lower depreciation, and lower fuel costs account largely for the reduction in operating costs in 1926.

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[1] The survey included 42 fruit farms in Monroe and Orleans Counties, 50 general crop farms in Cayuga County, 42 dairy farms with cash crops in Chemung and Chenango Counties, and 41 dairy farms without cash crops in Chenango County.

[2] Myers, W. I. An Economic Study of Farm Tractors in New York. Cornell University Agricultural Experiment Station, Bulletin 405.

The amount of work done by the tractor is the principal factor affecting costs of operation (table 2).

TABLE 2. RELATION OF ANNUAL HOURS OF WORK PER TRACTOR TO COSTS OF OPERATION, 181 TRACTORS, 175 FARMS. 1926

Hours of work annually	Less than 200	200 to 399	400 to 599	Over 600
	Costs per hour of tractor work.			
Depreciation	$0.616	$0.328	$0.238	$0.177
Fuel	0.272	0.263	0.309	0.298
Lubrication	0.129	0.085	0.075	0.052
Interest	0.170	0.089	0.065	0.041
Repairs and mechanic's labor	0.126	0.045	0.052	0.023
Other costs	0.059	0.052	0.041	0.047
Total cost without operator	1.372	.862	.780	.638
Hours worked annually	134.7	280.6	482.9	812.8

It is important to keep the tractor busy throughout the working season. While plowing and fitting land for crops constituted the major part of the work done by tractors, belt work such as filling silos, threshing and sawing wood accounted for 22.8 per cent of the total work. Custom work, either belt or field, aids also in increasing the hours of tractor work and lowering average costs of operation. Nearly 15 per cent of the total work done by tractors was custom work of which 71 per cent was belt work. Of the 175 tractor owners in this study, 106 did custom work on 540 farms other than the home farm. The average tractor worked on four farms. On farms with less than 80 acres of cropland, 22.5 per cent of the total tractor work was custom. On farms with 80 to 200 acres of cropland only 10 to 12 per cent of the total work was custom. Apparently owners of the small farms do not have enough home work to keep the tractor busy.

The displacement of horses and hired labor by tractors is an important factor and varies considerably with different regions (table 3).

TABLE 3. ESTIMATED NUMBER OF HORSES AND MONTHS OF HIRED LABOR DISPLACED BY THE USE OF A TRACTOR, 136 FARMS. 1926

		Average number of horses per farm.			Average number of months hired labor per farm.		
Type of farm	Number of farms	Without tractor	With tractor	Displaced by tractor	Without tractor	With tractor	Displaced by tractor
Fruit	34	5.8	2.8	3.0	16.2	11.5	4.7
General crop	30	6.4	4.0	2.4	8.1	5.3	2.8
Dairy and cash crop	35	4.9	3.6	1.3	20.6	16.4	4.2
Dairy	37	3.8	2.8	1.0	10.8	9.5	1.3
Average	136	5.2	3.3	1.9	14.1	10.8	3.3

The tractor has displaced the most horses on those farms with a large amount of field work. The effect is less apparent on dairy farms where the acreage of land in tilled crops is small. Horses have not been displaced to any great extent in the lighter and more rapid operations of cultivating and haying, but the effect is marked in plowing, harrowing and disking.

Labor requirements on dairy farms are affected more by the size of the dairy than by the amount of cropland. Where crops other than hay are grown labor requirements depend largely on the kind of crops. The average fruit farm with 70 acres in crops other than hay and 60 per cent of this cropland in orchard, most of which was cultivated, required twice as much man labor without a tractor as the average grain farm with 100 acres in crops other than hay. The effect of the tractor in displacing man labor was most marked on fruit farms. On the average farm, the tractor displaced practically a team of horses and a man for three months. Horses on farms where tractors are operated are older and cheaper horses, than could be used if the tractor was not available for the heavy work in the rush season.

C. W. GILBERT

SOURCES OF MILK PRODUCTS USED IN THE MANUFACTURE OF ICE CREAM BY NEW YORK STATE PLANTS[1]

Various combinations of milk products are used in the manufacture of ice cream. The kinds and quantities of milk products used depend on the relative cost and availability to the ice cream manufacturer. Some ice cream plants use a combination of milk, cream, and some form of concentrated milk, whereas, other plants combine various milk products including butter and powdered milk.

The relative quantities of milk fat obtained from various milk products by 50 ice cream plants in 1926 are given in table 1. About 55 per cent of the total milk fat used in ice cream was obtained from cream; 14 per cent from whole milk; 13 per cent from butter; and 10 per cent from ice cream mix.

TABLE 1. MILK PRODUCTS USED BY 50 ICE CREAM PLANTS IN 1926.

	Number of plants using each product	Pounds of product	Per cent of milk fat from each product	Pounds of fat	Per cent of total fat
Cream	43	6,562,651	37.8	2,481,704	55.3
Whole milk	35	17,793,859	3.7	651,627	14.5
Unsalted butter	16	716,470	84.0	601,826	13.4
Ice cream mix*	15	3,712,465	12.5	462,388	10.3
Condensed whole milk	23	2,698,860	9.5	255,918	5.7
Condensed skimmilk and part skimmilk	17	3,841,967	0.8	30,005	0.7
Skimmilk	15	3,218,240	0.1	3,451	0.1
Powdered skimmilk	9	173,863	0.9	1,603	——
Butter oil	1	200	99.0	198	——
Total	50	36,019,715		4,488,720	100.0
Average			12.5		

* Ice cream "mix" is a trade name for a combination of milk products containing the desired proportion of milk fat and milk-solids-not-fat ready for the freezer. It may or may not include the sugar and flavor.

New York State supplied about 73 per cent of the milk fat; Illinois, 13.5 per cent; and Minnesota, 6.9 per cent (table 2). Illinois supplied butter, cream, and condensed whole milk. The fat from Minnesota was in the form of butter. All of the fat from Canada was in the form of cream. Most of the milk fat from Pennsylvania and Vermont was in the form of mix and that from California was in powdered skimmilk.

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[1] Records were obtained from 52 New York State ice cream plants in 1926 and 39 plants in 1925. All plants were located outside of New York City. It is estimated that the 52 plants in 1926 produced about 85 per cent of the ice cream wholesaled in the territory; and the 39 plants in 1925 produced about 73 per cent.

TABLE 2. SOURCES OF MILK FAT USED BY 50 ICE CREAM PLANTS IN 1926.

	Pounds of fat	Per cent of total fat
New York	3,270,625	72.86
Illinois	606,420	13.51
Minnesota	310,340	6.91
Central States	109,006	2.43
Pennsylvania	94,505	2.11
Canada	64,627	1.44
Vermont	32,517	.72
California	680	.02
Total	4,488,720	100.00

The geographical sources of the various milk products used by ice cream plants in 1926 are shown graphically in figure 1. In general, most of the more perishable and bulky milk products were obtained from regions relatively near the ice cream plant, whereas, a large proportion of the powdered milk and most of the butter originated in areas where lower costs of production prevail. In 1925, all of the powdered skimmilk not produced in New York State came from the central states and in 1926 over one-third of the powered skimmilk came from California. In 1926, more of the butter came from Minnesota than in the previous year.

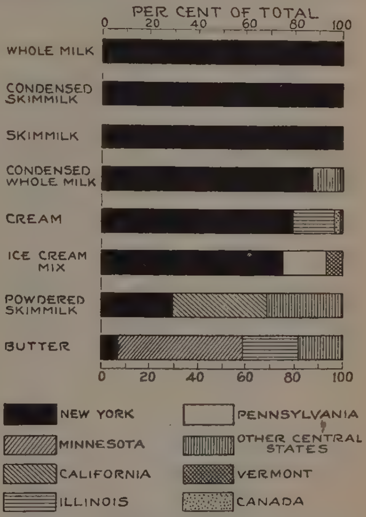

FIGURE 1. SOURCES OF MILK PRODUCTS USED BY 50 NEW YORK STATE ICE CREAM PLANTS LOCATED OUTSIDE OF NEW YORK CITY—1926

All of the whole milk, skimmilk, and condensed skimmilk and most of the condensed whole milk was obtained from New York State. New York State also supplied about 79 per cent of the cream, 30 per cent of the powdered skimmilk, and 7 per cent of the butter used by these plants.

Whole milk was used by 35 of the 50 plants. Erie, Rensselaer, Oneida, Schenectady, and Albany counties supplied about 78 per cent of the whole milk used by these plants.

Cream was used by 43 of the 50 plants or all plants not using a purchased ice cream mix as the exclusive source of milk products. Cattaraugus, Erie, and Oneida counties supplied about 35 per cent of the cream.

Most of the powdered skimmilk obtained in New York State came from Allegany County.

The small amount of butter that originated in New York State came from Genesee and Wayne Counties.

About 119,500,000 pounds of whole milk were required to furnish the milk fat in the various milk products used by these ice cream plants. About 73 per cent of this milk came from New York State, 19 per cent from the central states, 5 per cent from Canada, and 3 per cent from Pennsylvania and Vermont. Cattaraugus, Erie, Oneida, Wayne, and Schenectady counties supplied about 43 per cent of the total whole milk equivalent of milk fat used by these plants.

The milk products ingredients used were equivalent to 13.99 pounds of whole milk per gallon of ice cream. The average for 1925 was 13.92 pounds.

M. C. Bond

RECENT CHANGES IN APPLE VARIETIES

192 Newfane Farms, Niagara County, N. Y.

During the past 30 or 40 years, there has been a tendency to increase the number of apple trees in the Western New York Fruit Belt.

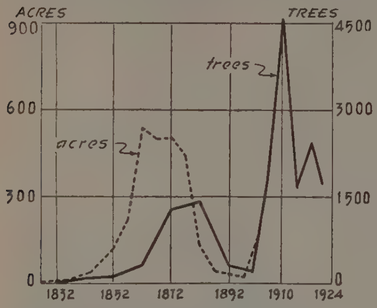

FIGURE 1.—AVERAGE NUMBER OF APPLE TREES SET PER YEAR FOR TREES LIVING IN 1926, IN NEWFANE TOWNSHIP, AND AVERAGE ACRES OF APPLES SET PER YEAR FOR ACRES REPORTED IN 1904 IN NIAGARA, ORLEANS, AND WAYNE COUNTIES[1]

Periods of over-and-under production in apples last from 20 to 30 years.

The varieties that showed the greatest gain in number of trees from 1921 to 1926, were Baldwin and Greening. The gain in this period for these varieties was twice as great as it was in the preceding five year period, 1916 to 1921. After years of experimenting with other varieties these two old varieties are the most popular at the present time.

Delicious, which is a new variety, was next. On the average, for the past eight years the young Delicious trees on these farms had the lowest yield, less than 1/6 of other varieties of similar age. If the low yields continue, the returns from the Delicious trees will be disappointing.

TABLE 1. NET CHANGE IN NUMBER OF APPLE TREES

192 Newfane-Olcott Farms, Niagara County, New York.

Varieties	Increase or decrease in number trees 1916-1921	Increase or decrease in number trees 1921-1926
Baldwin	893	1710
R. I. Greening	882	1633
Delicious	360	1329
McIntosh	2654	1304
Jonathan	1307	819
Winter Banana	64	122
N. W. Greening	1	88
Gravenstein	64	24
Golden Delicious	111	24
Yellow Transparent	1	5
Cortland	0	502
5 Other varieties	0	293
2 Other varieties	55	0
Duchess	1129	−1758
Wealthy	3977	−819
Maiden Blush	147	−465
Wagener	50	−331
Stark	130	−217
5 Other varieties	166	−83
Rome Beauty	0	−393
18 Other varieties	0	−141
Stizenburg	−30	−144
Roxbury Russet	−20	−120
Tompkins King	−44	−97
11 Other varieties	−73	−138
Rambo	−1	0
Net increase	11,823	3,147
Per cent increase in number of trees at beginning of period	14.5	3.4

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[1] Warren, G. F. Apple orchard Survey of Wayne County, New York. Cornell University Agri. Exp. Sta. Bul. 226; 308. 1905.

Warren, G. F. Apple orchard survey of Orleans County, New York. Cornell University Agr. Exp. Sta. Bul. 229: 483. 1905.

Cummings, M. B. Apple orchard survey of Niagara County, New York. Cornell University Agr. Exp. Sta. Bul. 262: 288. 1909.

The increase in McIntosh trees from 1921 to 1926 was about the same as was the increase in Delicious. This, however, was only half as great as in the preceding five year period, 1916–21. Evidently, these farmers do not have as much enthusiasm for McIntosh as they had five to ten years ago.

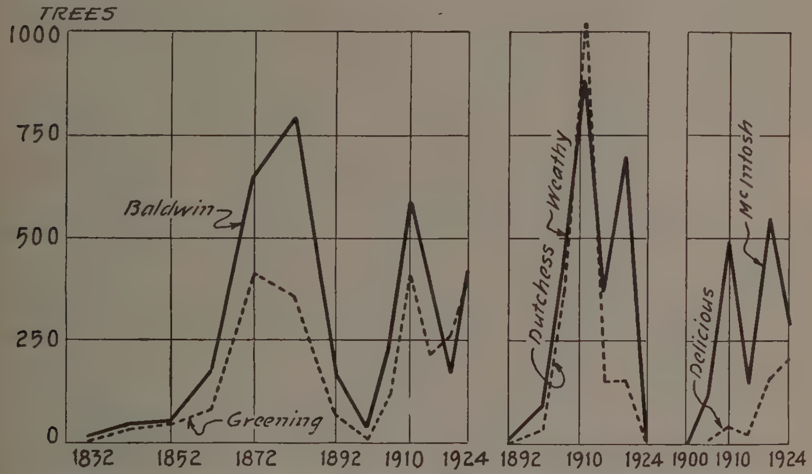

FIGURE 2.—AVERAGE NUMBER OF TREES SET PER YEAR FOR TREES LIVING IN 1926, ON 192 FARMS, NEWFANE TOWNSHIP, NIAGARA COUNTY, NEW YORK.

Baldwins and Greenings have been popular for a century and today are the most popular varieties; the Duchess-Wealthy boom lasted 20 years; now McIntosh and Delicious are being planted in large numbers.

McIntosh has sold for the highest price, but yields on these farms have been about 10 per cent below the average of other varieties. If the high price continues, McIntosh will continue to be one of the most profitable varieties.

About 20 years ago, Newfane farmers were planting Duchess and Wealthy trees in larger numbers than they had ever planted of any other varieties. Since 1921, there has been little or no planting of these varieties. In 1926, there were 1758 less Duchess trees on these Newfane farms than in 1921, and 819 less Wealthy trees. During the past five years, Duchess trees were reduced 20 per cent and Wealthy trees, 6 per cent. Many of these have been taken out because they were planted as fillers. Duchess and Wealthy have been overplanted and production must be reduced before thay are likely to be profitable in this community.

Spitzenburg, Russet, King, and Twenty Ounce are among the older varieties that have been decreasing since 1916. According to the number of trees set in recent years, the most popular apple varieties are the Baldwin, Greening, Delicious, McIntosh, Jonathan, and Cortland.

G. P. SCOVILLE

RELATION OF THE RETAIL PRICE AND GUARANTEED ANALYSIS OF MIXED FERTILIZERS SOLD IN NEW YORK, 1923–1927

The New York State Department of Farms and Markets collects retail prices as well as samples of fertilizers sold in the State. The official samples collected by the Department are sent to the New York State Agricultural Experiment Station at Geneva for chemical analysis. Summaries giving the number of the different grades of fertilizer sampled and the averaged retail price for each grade has been published by the Geneva Experiment Station.[1] This information is available for the 4 years 1923, 1924, 1926, 1927.

These data make it possible to determine the relation between the guaranteed analysis and the retail price of mixed fertilizers in New York.[2] The most important factors affecting the retail price of mixed fertilizers are the differences in the percentages of ammonia, phosphoric acid and potash. In 1923, these factors accounted for 97 per cent of the variations in the retail price. (table 1).

In 1927, however, the differences in the guaranteed analysis accounted for only 66 per cent of the variability in the retail price. That is, the analysis in 1927 was less important in determining the price which the farmer paid than in 1923, 1924, or 1926. The fertilizer tonnage in the United States for 1927 was approximately 10 per cent less than in 1926. With this decrease in the volume of business, there were reductions in retail prices of fertilizers, and many companies incurred large losses. When the conditions in the trade are such that the tonnage declines and prices are reduced, factors other than the guaranteed analysis are important in determining retail prices.

TABLE 1. PERCENTAGE DETERMINATION OF FLUCTUATIONS IN RETAIL PRICE OF MIXED FERTILIZER BY THE GUARANTEED CONTENT OF AMMONIA, PHOSPHORIC ACID, AND POTASH

Year	Per cent determinations*				Multiple correlation $R_{1.234}$**
	Ammonia phosphoric acid and potash combined	Ammonia	Phosphoric acid	Potash	
1923	96.94	73.73	1.18	22.03	0.984
1924	82.06	69.71	0.84	11.51	0.906
1925	——	——	——	——	——
1926	94.49	84.15	1.95	8.39	0.972
1927	65.94	64.90	−2.30	3.34	0.812

*The per cent determination, when taken without regard to sign, expresses the proportion of the variability in the retail price, that is due to the variability of the guaranteed analysis.

**X_1 = retail price, X_2 = per cent ammonia, X_3 = per cent phosphoric acid, X_4 = per cent potash.

The percentage of ammonia was not only the most important single factor, but more important than all the other factors combined, in determining the retail price of mixed fertilizers. This is probably due to the fact that ammonia is the most expensive plant food in commercial fertilizers.

Variations in the percentage of potash and phosphoric acid also influence the retail price. The percentage of potash, however, is more important than the percentage of phosphoric acid. In 1927, for every one per cent change in the ammonia content of the fertilizer there was on the average a change of $2.74 in the retail price.[3] A variation of one per cent in the phosphoric acid or potash content caused a change of only $.37 in the price.[3] (table 2).

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[1] Van Slyke, L. L., Composition and prices of commercial fertilizers in New York in 1923, 1924, 1926, 1927. New York (Geneva) Agr. Exp. Sta. bul. 511, 525, 539, 548. 1923, 1924, 1926, 1927.

[2] Multiple correlations were made between the retail price, X_1, and the guaranteed percentage of ammonia, X_2, percentage of phosphoric acid, X_3, and percentage of potash, X_4.

An increase of one per cent in ammonia changed the retail price more than 7 times as much as a similiar increase in either phosphoric acid or potash.

TABLE 2. INCREASE IN THE RETAIL PRICE OF MIXED FERTILIZERS ACCOMPANIED BY A 1 PER CENT INCREASE IN THE GUARANTEED CONTENT OF AMMONIA PHOSPHORIC ACID AND POTASH 1923-24-26-27

Year	Ammonia*	Phosphoric Acid*	Potash*
1923	$3.50	$1.06	$.74
1924	3.27	−.43	.57
1925	——	——	——
1926	3.84	.65	.58
1927	2.74	.37	.37
Average	3.34	.41	.57

*Net regression coefficients $b_{12.34}$, $b_{13.24}$, and $b_{14.23}$. X_1 = price, X_2 = percentage of ammonia, X_3 = percentage of phosphoric acid, X_4 = percentage of potash.

In 1924, the average price for brands of mixed fertilizer containing 8 per cent phosphoric acid was $36.90, the average price for 10 per cent phosphoric acid brands was $0.84 less. The 12 per cent brands averaged only $33.16. Thus, there was a decided tendency for the price to decrease as the phosphoric acid content increased. On the average, the price decreased $0.43 per ton for every increase of 1 per cent in the phosphoric acid content of the fertilizer.

During the 1924 season, there was keen competition and considerable price cutting. Evidently the reduced prices were kept in line with the ammonia and potash content of the fertilizer, but not with the phosphoric acid content.

For the 4 years for which the data are available, the variation in retail price for each unit change in the ammonia content of the fertilizer was $3.34, for phosphoric acid $0.41, and for potash $0.57.

Wholesale prices of ammonia, phosphoric acid and potash in standard fertilizer materials are given in table 3.

TABLE 3. WHOLESALE PRICES PER UNIT OF AMMONIA, PHOSPHORIC ACID AND POTASH 1923-27

Year	Ammonia in nitrate of soda per unit	Ammonia in tankage per unit	Phosphoric acid in acid phosphate per unit	Potash in muriate of potash per unit
1923	$2.80	$4.20	$.55	$.63
1924	2.78	3.48	.50	.62
1925	2.88	3.74	.60	.62
1926	2.83	3.89	.60	.63
1927	2.79	4.46	.53	.68
Average 4 years (1923-24-26-27)	2.80	4.01	.54	.64

For the 4 years for which the data on retail prices are available, the average wholesale price of potash per unit was $0.64. The average change in the retail price of mixed fertilizers for each unit increase in the potash content was $0.57. This is less than the wholesale price. During this 4-year period, farmers, who were using mixed fertilizer, could obtain additional potash in mixed goods at slightly less than wholesale prices.

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[3] These values and those given in table 2 are the net regression coefficients from the regression equations based on the multiple correlations in table 1.

In 2 years out of the 4, the wholesale price of acid phosphate per unit was less than the change in the retail price accompanied by a unit change in the phosphoric acid content of the mixed fertilizers. The average change in the retail price for each unit change in ammonia content was greater than the price of ammonia in nitrate of soda, but less than the price of ammonia in tankage.

During these 4 years, changes of 1 per cent in the phosphoric acid and potash content of mixed fertilizers caused a change in the retail price, which was less than the average cost of these materials at wholesale. This would seem to indicate that fertilizer manufacturers had a wider margin on brands which contained a relatively low percentage of these materials.

The retail price of fertilizers varied directly with the amounts of the different plant food elements which it contains (table 1). The retail price, however, includes charges for freight, handling, manufacturing, retailing, etc. These costs, however, do not vary directly with the analysis. For the 4 years 1923-24-26-27, the average retail price was $37.41. The average value of the plant food contained in the fertilizers, calculated from the values in table 2, was $16.36. The difference, $21.05 per ton, is the gross margin which was left to cover the cost of all the services which the farmers received when buying mixed fertilizer. If the farmer purchased an equivalent amount of plant food in unmixed materials the cost would be more than $16.36, since he would have to pay charges for freight, handling, retailing, etc.

TABLE 4. RETAIL PRICE, VALUE OF PLANT FOOD* AND GROSS MARGIN** PER TON ON MIXED FERTILIZERS IN NEW YORK, 1923-24-26-27.

Year	Average retail price per ton	Value of plant food in average analysis*	Gross margin**	Per cent gross margin is of retail prices
1923	$35.78	$20.08	$15.70	44
1924	36.67	9.21	27.46	75
1925	—	—	—	—
1926	41.76	21.20	20.56	49
1927	35.42	14.95	20.47	58
Average	37.41	16.36	21.05	56

*The value was calculated by using the values for each plant food in table 2, that is the change in the retail price accompanied by changes in the analysis (the net regression coefficients).

**The gross margin is the constant in the regression equation.

Since a considerable part of the retail price of mixed fertilizers is fixed costs, the average cost of a unit of plant food in high analysis goods tends to be lower than in fertilizers of low analysis. The total plant food per ton averaged 14.92 units in 1923. By 1927, it increased 22 per cent, two 18.25 units per ton (table 5). Farmers have tended to purchase higher analysis goods.

TABLE 5. AVERAGE ANALYSIS OF MIXED FERTILIZERS IN NEW YORK 1923-24-26-27

Year	Total plant food per ton	Ammonia per cent	Phosphoric acid per cent	Potash per cent
1923	14.92	2.32	8.16	4.44
1924	16.67	3.01	8.33	5.13
1925	—	—	—	—
1926	18.18	3.08	9.35	5.75
1927	18.25	3.48	9.11	5.66

In 1923, the ammonia in mixed fertilizers in New York averaged 2.32 per cent. In 1927, it was 3.48, or 50 per cent greater than in 1923. Even tho ammonia is the highest priced plant food which farmers buy, they have used increasing amounts in mixed fertilizer. From 1923 to 1927, the average potash content increased 27 per cent; from 4.44 to 5.66. Phosphoric acid increased 11.6 per cent.

TABLE 6. COEFFICIENTS OF VARIABILITY OF AMMONIA, PHOSPHORIC ACID AND POTASH CONTENT OF MIXED FERTILIZERS IN NEW YORK 1923-24-26-27

Year	Ammonia	Phosphoric acid	Potash
1923	50.36	9.07	60.62
1924	47.79	11.25	49.92
1925	——	——	——
1926	42.35	21.72	44.17
1927	40.41	21.29	42.74

In 1923, the coefficient of variability of the potash content of mixed fertilizers in New York was 60.6. That is, there was a wide range in the percentage of potash in the different grades of fertilizers. No particular percentage predominated. Four years later, in 1927, the average percentage of potash had increased, but the coefficient of variability had decreased to 42.7. The percentage of potash was increasing and becoming less variable. The same was true of ammonia. The phosphoric acid content, however, became more variable; that is, there was more variation in the phosphoric acid content of mixed fertilizers in 1927 than in 1923.

The amounts of ammonia and phosphoric acid in the mixed fertilizers sold in New York are not in any fixed ratio. A fertilizer containing a high percentage of ammonia may contain a high or low percentage of phosphoric acid. There is practically no relation between the ammonia and potash content. There is, however, a slight tendency for the phosphoric acid content to decline, as the potash increases (table 7).

TABLE 7. PARTIAL CORRELATION OF PERCENTAGES OF AMMONIA, PHOSPHORIC ACID AND POTASH IN MIXED FERTILIZER IN NEW YORK 1923-24-26-27

Year	Ammonia with phosphoric acid; potash constant	Ammonia with potash; phosphoric acid constant	Phosphoric acid with potash; ammonia constant
1923	−0.004	0.219	−0.129
1924	0.058	0.247	−0.230
1925	——	——	——
1926	0.049	0.107	−0.292
1927	−0.287	−0.062	−0.371

The wide variability of analyses and the fact that there is very little or no relation between the percentages of the different plant food elements in the mixed fertilizers indicates that farmers have a wide selection to pick from when buying mixed fertilizers. They have a wide selection not only as to the amounts and kinds of plant food they can obtain per ton, but also as to the ratio or proportion of one plant food to the other.

E. E. VIAL

THE CHICAGO METROPOLITAN DISTRICT AS A RETAIL HONEY MARKET, 1926[1]

This study is based on data collected by the Department of Agricultural Economics and Farm Management, New York State College of Agriculture, in cooperation with the Division of Cooperative Marketing, Bureau of Agricultural Economics, United States Department of Agriculture.

This survey included 294 retail stores located within the limits of the city of Chicago, Illinois, and its suburbs. Data were obtained concerning the amount of honey sold by these stores during 1926. Chain stores constituted 41.2 per cent; independent grocery stores 37.8 per cent; delicatessen stores 15.3 per cent, fruit and vegetable stores, 5. 4. per cent and the health food stores, 0.3 per cent of the records obtained (table 1).

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[1] Mr. H. F. Buchanan, of the United States Department of Agriculture, Washington, D. C., assisted in this study.

Amount of Honey Sold by Various Types of Stores

The average amount of honey sold by these 294 stores during 1926 was approximately 427 pounds per store (table 1). This was approximately 156 pounds less per store than the average in Elmira, New York[2] but 98 pounds more than in New York City.[3]

TABLE 1.—VOLUME OF HONEY SOLD PER STORE BY DIFFERENT TYPES OF RETAIL STORES, CHICAGO DISTRICT, 1926

Type of store	Number stores	Total sales, pounds	Sales per store, pounds	Range in sales per store, pounds	Per cent of total
Chain grocery	121	41,220	341	10– 2028	32.84
Unit grocery	111	39,885	359	8– 4485	31.78
Delicatessen	45	5,414	120	8– 778	4.31
Fruit and vegetable	16	1,886	118	6– 417	1.50
Health food	1	37,120	37,120	37,120	29.57
All stores	294	125,525	427	6–37,120	100.00

One health food store sold almost as much honey as the entire 111 unit grocery stores or the entire 121 chain grocery stores. While the number of such stores is doubtless small, it is likely that health food stores may be of considerable importance as outlets for honey in Chicago, (table1).

Independent unit grocery stores in Chicago sold an average of 359 pounds of honey per store while chain grocery stores averaged 341 pounds, a difference of only-18 pounds. In New York City, chain grocery stores sold almost twice as much honey per store as independent grocery stores.

Sales of honey by delicatessen stores and fruit and vegetable stores were markedly lower than in New York City.

As in New York City, chain store systems in Chicago were not all equally good outlets for honey. The 121 chain stores studied in the Chicago area were a part of ten chain grocery systems. The average sales of honey per store ranged from 10 to 2028 pounds per year (table 2). Location of stores and type of population undoubtedly influenced honey sales to some extent. It is likely, however, that the attitude of the chain store buyers towards honey had considerable bearing on the honey sales reported for these chains. Some chain store buyers regarded honey as a profitable line and spent some effort in pushing it. Others considered honey to be more or less of a nuisance and gave it little or no attention.

TABLE 2.—VARIATIONS IN VOLUME OF HONEY SOLD PER STORE, 10 CHAIN GROCERY SYSTEMS, CHICAGO DISTRICT, 1926

Symbol of system	Number of stores	Total sales, pounds	Sales per store, pounds	Range in sales per store, pounds	Per cent of total
Chain Q	58	15,012	259	16–2028	36.42
Chain R	28	13,244	473	40–1748	32.13
Chain S	14	8,857	633	281–1395	21.48
Chain T	8	1,124	140	32– 573	2.73
Chain U	5	1,156	231	116– 308	2.80
Chain V	2	831	415	106– 725	2.02
Chain W	2	363	182	163– 200	.88
Chain X	2	218	109	10– 208	.53
Chain Y	1	284	284	284	.69
Chain Z	1	132	132	132	.32
All chains	121	41,220	341	10–2028	100.00

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[2] Rasmussen, M. P., Some facts concerning the retailing of honey in Elmira, New York, Farm Economics, No. 52, pages 900-903, May, 1928.

[3] Rasmussen, M. P., The New York Metropolitan District as a retail Honey Market, 1926. Farm Economics, No. 53, pages 933-937, June, 1928.

Per Capita Consumption

Assuming 300 individuals to have been served by the average grocery store, the consumption of honey in Chicago during 1926 is estimated to have been approximately 23 ounces per capita, with 17 ounces in New York City, and 31 ounces in Elmira, New York.

Volume of Extracted Honey Sold

All of the stores from which records were obtained sold extracted honey during 1926 (table 3). The average volume of extracted honey sold per store in Chicago during 1926 was approximately 294 pounds, compared with 307 pounds in New York City and 416 pounds in Elmira, New York.

It will be noted that 61 per cent of these stores sold less than 100 pounds of honey per year. Only 10 per cent sold 400 or more pounds of extracted honey per year. On the other hand, 8 stores sold approximately 6,275 pounds of extracted honey per store during 1926.

Volume of Comb Honey Sold

While all the stores sold some extracted honey, 110 stores or approximately 37 per cent did not sell comb honey (table 4). Of the remainder, 89 stores sold less than 100 pounds per store while only 16 stores sold 500 pounds or more per year. As in New York City, the unvarying explanation of the failure to stock comb honey was the fragility and perishability of the commodity.

TABLE 3.—SALES OF 86,085 POUNDS OF EXTRACTED HONEY, 294 RETAIL FOOD STORES, CHICAGO DISTRICT, 1926

Range in pounds	Number of stores	Sales per store pounds
1 - 25	67	14
25.1- 50	61	37
50.1- 100	54	73
100.1- 200	49	139
200.1- 300	22	246
300.1- 400	11	335
400.1- 600	13	458
600.1-1000	9	766
Over 1000	8	6275
6 -36000	294	293

TABLE 4.—SALES OF 39,440 POUNDS OF COMB HONEY, 294 RETAIL FOOD STORES, CHICAGO DISTRICT, 1926

Range in pounds	Number of stores	Sales per store, pounds
—	110	—
1- 50	36	29
51- 100	53	79
101- 200	41	165
201- 500	38	346
501-2000	16	896
10-2000	294	134

The average sales of comb honey in Chicago during 1926 were 134 pounds per store, in New York City 22 pounds, and in Elmira, New York, 168 pounds. Although the volume of sales was small in both cities, the outlet for comb honey in Chicago was considerably better than in New York City.

Sizes and Types of Containers

Extracted honey was sold in 25 different sizes and two types of containers (table 5). As in New York City, it is likely that the number of sizes of containers could readily have been reduced 50 per cent without reducing the sales appreciably. Approximately 97.5 per cent of the extracted honey was sold in 13 sizes and two types of containers.

Chicago retailers, in common with those in New York City, criticized the practice of honey packers or wholesale grocers of bottling honey in so many different sizes. The necessity for half-ounce variations in sizes was especially challenged. The increase in apartment houses in large cities and consequent lack of storage are frequently cited by honey packers as basic reasons for bottling honey in small containers.[4] Actual sales of honey in Chicago do not bear out these assumptions.

In point of volume, the 5-pound pail was outstandingly the popular size, constituting almost one-third of the extracted honey sold by these stores. The 8-ounce glass jar was the next in popularity in point of volume and first in individual sales, closely followed by the one-pound and two-pound glass jars. Only two out of the nine most popular sizes contained less than one pound of honey.

TABLE 5.—AMOUNT OF EXTRACTED HONEY SOLD IN VARIOUS TYPES OF CONTAINERS, 294 RETAIL FOOD STORES, CHICAGO DISTRICT, 1926

Container	Total sales pounds	Per Cent	Number of Containers
5 pound tin pail	27,430	31.86	5,486
8 ounce glass jar	10,399	12.08	20,797
16 ounce glass jar	10,025	11.65	10,025
32 ounce glass jar	6,813	7.91	3,406
5 ounce glass jar	6,162	7.16	19,718
20 ounce glass jar	6,000	6.97	4,800
14 ounce glass jar	5,571	6.47	6,367
48 ounce (quart) glass jar	2,944	3.42	981
96 ounce (2 qt.) glass jar	2,678	3.11	446
10 ounce glass jar	2,040	2.37	3,264
24 ounce (pint) glass jar	1,862	2.16	1,241
6 ounce glass jar	1,068	1.24	2,847
10 pound tin pail	900	1.05	90
12 ounce glass jar	645	.75	860
2½ pound tin pail	555	.64	222
12 pound tin pail	540	.63	45
4 ounce glass jar	219	.25	876
3 ounce glass jar	120	.14	640
1 pound tin can	30	.04	30
5½ ounce glass jar	25	.03	72
12½ ounce glass jar	15	.02	19
6½ ounce glass jar	14	.02	33
13 ounce glass jar	12	.01	14
3½ ounce glass jar	10	.01	48
11 ounce glass jar	8	.01	12

The conviction seems almost universal among honey packing concerns that honey cannot be sold in large volume in tin containers. The 5 pound tin pail was the most popular size in Chicago as it was in Elmira, New York. In New York City, the 2½ pound tin pail was the best seller. Corn syrup, which sold in large volume in all of these stores, was offered for sale exclusively in tin containers and only 5 sizes were sold.

Costs and Selling Prices

Chicago honey consumers in common with those in New York City, were obliged to pay relatively high premiums for the privilege of buying honey in small quantities. The average price paid by consumers for honey in 5-pound tin pails was approximately $.24 per pound while the price for honey when purchased in 5 ounce glass containers was almost $0.45 per pound (table 6). This may explain the marked popularity of the 5-pound tin container.

Gross retail margins on honey in the various sizes were rather inconsistent. A gross margin of over 29 per cent was taken on the 3-pound quart glass jar but only 5.4 per cent on the 2-pound glass jar. Less than 14 per cent gross margin was taken on the 14-ounce and 6-ounce glass jars, while 38 and 25 per cent, respectively, were taken on the 12-ounce and 5-ounce glass jars, respectively. The explanation of these inconsistencies probably lies in the use of certain sizes for "leaders" or special sales.

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[4] Unpublished data gathered in a national survey of the honey marketing situation during 1927 and 1928 by the author.

TABLE 6.—AVERAGE COSTS AND SELLING PRICES FOR EXTRACTED HONEY IN CONTAINERS OF VARIOUS SIZES, 294 RETAIL FOOD STORES, CHICAGO DISTRICT 1926

Size and Type of Container	Average cost per container	Average selling price per container	Average cost per pound to consumer	Gross Retail Margin		
				Per container	Per Pound	Per Cent
5 pound tin pail	$0.95	$1.192	$0.238	$0.242	$0.048	20.17
1 quart glass jar	0.657	0.927	0.309	0.27	0.09	29.13
32 ounce glass jar	0.526	0.555	0.278	0.029	0.015	5.40
16 ounce glass jar	0.271	0.343	0.343	0.072	0.072	20.99
14 ounce glass jar	0.273	0.315	0.36	0.042	0.048	13.33
12 ounce glass jar	0.175	0.283	0.377	0.108	0.144	38.20
8 ounce glass jar	0.164	0.21	0.42	0.046	0.092	21.90
6 ounce glass jar	0.12	0.139	0.371	0.019	0.051	13.75
5 ounce glass jar	0.105	0.14	0.448	0.035	0.112	25.00

A comparison of prices for the same size and type of the larger containers in New York City, Elmira, and Chicago, shows New York prices to be the highest, Chicago prices about one-third lower and Elmira prices approximately 50 per cent lower than those in New York (table 7). Prices on the smaller glass containers were relatively uniform.

TABLE 7.—COMPARATIVE RETAIL PRICES FOR THE POPULAR SIZES OF EXTRACTED HONEY, ELMIRA, NEW YORK; CHICAGO DISTRICT AND NEW YORK METROPOLITAN DISTRICT, 1926

Size and type of container	Prices of extracted honey per pound			Per cent New York price was greater than the Elmira price	Per cent New York price was greater than the Chicago price
	Elmira New York	New York Metropolitan District	Chicago District		
5 pound tin pail	$0.126	$0.234	$80.238	86	—2
2½ pound tin pail	0.132	0.26	0.200	97	30
32 ounce glass jar	0.238	0.37	0.278	56	29
16 ounce glass jar	0.314	0.44	0.343	40	28
12 ounce glass jar	0.293	0.373	0.377	27	—1
8 ounce glass jar	0.42	0.48	0.42	14	14

Honey consumers in Elmira, New York had the greatest incentive to buy honey in large quantities, since the difference in price per pound between a 5-ounce glass jar and a 5-pound tin pail amounted to 233 per cent. The difference in New York was 104 per cent and in Chicago approximately 90 per cent.

Source of Supply and Basis of Purchase

Approximately 96 per cent of these Chicago retailers purchased their supply from wholesale grocers or honey packers. Only 4 per cent obtained honey from local producers. In New York City, all but one store patronized wholesale grocers or honey packers. In Elmira, New York, 87 per cent of the honey supply was purchased from local producers.

Approximately 98 per cent of the honey merchandized by Chicago retailers was purchased on the basis of a given brand. Only two per cent was bought on sample.

Trend of Honey Sales

Approximately 18 per cent of the Chicago retailers reported a decrease in honey sales in 1926 as compared with 1925; 22 per cent reported an increase; and 60 per cent reported no change in sales. This is substantially in accord with the trend of sales in New York City and Elmira, New York, and indicate little or no change.

Competition with Other Syrup

Corn syrup, cane syrup, and maple syrup were of approximately equal importance as competitors of honey in Chicago. Approximately two-thirds of the retail stores reported smaller sales of honey than of any of these three syrups.

Nationality of Consumers

The managers of the Chicago stores estimated that approximately 32 per cent of their customers who purchased honey were Americans. The reamining 68 per cent were made up of 14 nationalities of which the German, Scandinavian, Jewish, Irish, Italian and Polish predominated. New York City store managers reported exactly the same proportion of their customers as being foreign born citizens. Foreign born citizens are undoubtedly the larger consumers of honey in our eastern cities.

M. P. Rasmussen

TAXES ON FARM PROPERTY IN NEW YORK

The total tax payments on farm property in New York are indicated for a number of years in table 1.

TABLE 1. FARM TAX PAYMENTS IN NEW YORK.

Year	Farm taxes in dollars*	Number of farms**	Taxes per farm	Acres of land in farms**	Taxes per acre of farm land
1910	$8,642,400	215,597	$40.08	22,030,367	$0.39
1911	9,085,600				
1912	10,858,400				
1913	11,301,600				
1914	11,744,800				
1915	12,631,200				
1916	13,650,600				
1917	13,761,400				
1918	15,955,200				
1919	16,398,400				
1920	18,614,400	193,195	96.35	20,632,803	0.90
1921	22,160,000				
1922	21,273,600				
1923	21,938,400				
1924	24,509,000				
1925	24,619,800	188,754	130.43	19,269,926	1.28
1926	25,927,200				
1927	26,148,800				

* Computed from index numbers of farm taxes for New York in Exp. Sta. Bu. 457, and the estimate of farm taxes paid in 1921 made by the Bureau of Economic Research in Income in the Various States, its Sources and Distribution by Maurice Leven.

** Census of Agriculture, Bureau of the Census, Washington, D. C.

Tax payments in 1927 were more than three times as great as in 1910. With one exception, 1922, which followed a year of severe depression, they increased each year from 1910 to 1927.

Taxes per farm were $40.08 in 1910; $96.35 in 1920, and $130.43 in 1925. But between these years both the number of farms and the area of land in farms were decreasing. The average taxes per acre is a better expression of the increased taxes upon farm property. Taxes on farm property in New York were $0.39 per acre in 1910; $0.90 in 1920 and $1.28 in 1925. Therefore, a 100-acre farm which paid $39 for taxes in 1910, paid $90 in 1920, and $128 in 1925.

M. Slade Kendrick

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FARM ECONOMICS

Department of Agricultural Economics and Farm Management
NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 55 NOVEMBER, 1928

BUSINESS CONDITIONS:—1910–14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	191	173	236	281	83
Jan. 1927	150	142	130	145	171	194	175	237	252	96
Feb.	149	142	132	145	171	191	174	237	258	95
Mar.	148	142	131	142	172	193	173	240	261	90
Apr.	147	147	130	143	172	200	173	235	264	93
May	147	167	132	146	172	192	174	235	273	94
June	146	172	134	149	172	182	173	235	275	93
July	147	161	137	148	167	186	171	233	280	85
Aug.	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Feb., 1928	149	148	138	142	168	193	170	235	316	95
Mar.	149	149	141	143	168	192	166	239	327	90
Apr.	151	152	145	147	170	196	166	232	340	97
May	153	164	153	157	172	186	170	235	347	101
June	151	169	150	156	170	183	168	238	334	107
July	152	164	152	156	170	189	168*	235	336	103
Aug.	153	152	145	151	171	189	170*	237	347	97
Sept.	155	152	146	154	174	196	171*	240	365	93
Oct.		151	144	149					373	94*

*Preliminary figure will be revised later.

(Footnotes continued on next page.)

BUSINESS CONDITIONS

The production and distribution of urban products continues to improve. The steel, automobile, and textile industries have been unusually active. Brokers loans have risen to new high levels. Employment conditions are improving. Freight car loadings are large. Retail sales are larger than a year ago. Industrial stocks are 273 per cent above pre-war prices.

The United States Bureau of Labor index number of all commodities has risen 6 points since last March. Since this index includes prices of 550 commodities, an average advance of this amount is important. Thus far, the advance has not been as great as that which occurred in 1925.

Farm Prices

Retail prices for food have risen materially, but prices paid to farmers for food are only slightly higher than last year.

Prices of cotton are considerably below last year's prices so that the index for all farm products is lower than last year.

Prices of grain are only a little above pre-war. Potatoes and hay are selling at less than pre-war prices.

TABLE 1. PERCENTAGE INCREASE IN THE PRODUCTION OF FEEDING CROPS IN 1928 COMPARED WITH 1927*

Crop	World Per cent increase	United States Per cent increase	Canada Per cent increase
Barley	17	33	50
Oats	10	23	8
Cotton	9	12	—
Wheat	7	4	25
Rye	6	−26	13
Corn	3	5	35
Sugar beets	−7	−18	24

*Foreign Crops and Markets. United States Department of Agriculture, Vol. 17, No. 17, pp. 654-683. October 22, 1928.

Cattle and sheep and their products are high in price. Since feed is relatively cheap, the situation for producers of cattle products is good. Grain products and feeds are much more abundant than last year. Both in the United States and in the world, feed crops are large.

The September farm price of milk in New York was 78 per cent above pre-war. The dairy ration in October was 49 per cent above pre-war. Feeds rose last month, but are generally low compared with the price of milk.

G. F. WARREN AND F. A. PEARSON

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities is converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February, 1927.

[4] Cost of assembling, transporting, processing and distributing food. For methods of calculation, see Farm Economics, No. 50, p. 830, Jan., 1928.

[5] The index numbers for December and June are those published by the United States Bureau of Labor Statistics. Intervening months bear the same ratio to these figures that Snyder's index for the intervening months bears to his figures for June and December. Both index numbers use 1913 as 100, but Snyder's shows that the five-year period, 1910-14, also averages 100.

[6] Data furnished by the Department of Labor of New York. Union wage rates, in 1914 are 101 when 1910-14 = 100. Weelky earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[7] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[8] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

EFFECT OF SIZE OF LOAD ON COSTS OF HAULING MILK ON 59 COMMERCIAL ROUTES[1]

A summary of the costs of hauling milk on 17 team routes and 59 truck routes was given in Farm Economics Number 54.

In order to measure the effect of the size of loads on the costs of hauling, the 59 truck routes have been arranged in four groups according to the average size of load hauled (table 1).

TABLE 1. EFFECT OF SIZE OF LOAD ON THE COSTS OF HAULING MILK AND INCOME FROM HAULING, 59 TRUCK ROUTES

	Hundredweight of milk per trip			
	10 or less	11 to 20	21 to 30	Over 30
Number of routes	6	22	23	8
Hundredweight per trip	9.2	15.6	25.6	34.5
Number patrons per route	7	11	22	22
Number miles per trip	11.6	15.2	19.2	18.2
Cost per trip	$2.75	$3.12	$4.08	$4.80
Cost per 100 pounds of milk	$0.298	$0.200	$0.160	$0.139
Average haul (miles)	4.9	6.2	7.2	8.0
Cost per hundredweight—mile	$0.060	$0.032	$0.022	$0.017
Haulers' income per hundredweight	$0.178	$0.172	$0.174	$0.170
Haulers' net return per hour of labor	$0.019	$0.274	$0.499	$0.706

The average size of load hauled on individual truck routes varied from 8.1 hundredweight to 39.9 hundredweight of milk per trip. The six routes with smallest loads averaged only 9.2 hundredweight per trip. The average cost per 100 pounds of milk on these routes was 29.8 cents, and the average hauling distance 4.9 miles.

The eight largest routes had an average of 34.5 hundredweight per trip. The average cost on these routes was 13.9 cents per 100 pounds of milk, and the average hauling distance 8 miles. Thus the cost per 100 pounds of milk on the largest routes was less than a half as much as the cost on the smallest routes, although the average haul for the former group was much longer.

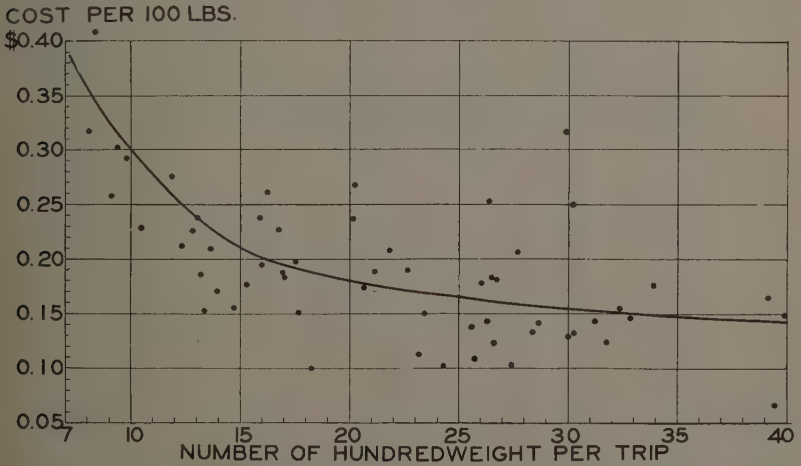

FIGURE 1. RELATION OF SIZE OF LOADS TO THE COST OF HAULING 100 POUNDS OF MILK ON COMMERCIAL ROUTES

The position of the dots shows the cost per hundredweight and the average size of load for individual routes. The curved line indicates the tendency for hauling costs to decrease as the size of load increases. In general, the cost increases rapidly when the loads fall below fifteen hundredweight of milk per trip.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Flax seed bu.	Beans bu.	Cotton* lb.	Hay ton	Onions bu.	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
Average	64.8	39.9	88.0	61.7	73.3	168.8	2.26	12.4	11.94	112	69.6	87.6
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66 0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.29	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06	...	185.7	156.3
1927	78.8	44.9	120.5	67.1	88.4	195.9	3.07	15.9	12.00	...	132.3	114.0
1927												
October	87.6	44.6	113.7	66.8	82.9	191.2	3.08	21.0	10.63	...	97.9	98.1
November	73.7	45.1	111.4	66.8	79.4	184.2	2.95	20.0	10.54	...	95.4	86.5
December	75.1	48.1	113.9	71.5	81.0	185.3	3.01	18.7	10.55	...	94.1	91.9
1928												
January	75.2	49.3	115.2	73.6	82.0	188.4	3.11	18.6	10.60	...	93.6	93.4
February	79.0	51.3	116.2	75.4	85.2	189.9	3.44	17.0	10.24	...	96.2	98.6
March	86.2	54.5	121.6	79.4	90.2	194.8	3.86	17.8	10.19	...	113.2	109.6
April	91.9	56.9	129.2	81.3	94.8	198.4	4.26	18.7	10.29	...	116.8	115.1
May	102.5	62.0	144.3	84.5	102.3	210.5	4.35	20.1	10.70	...	103.3	121.4
June	102.2	61.4	132.0	81.7	109.0	209.0	4.46	19.7	11.01	...	83.6	124.7
July	102.4	56.2	118.1	77.6	108.0	195.5	4.61	21.0	10.86	...	77.9	119.5
August	98.2	38.4	95.2	58.9	98.1	181.7	4.27	18.8	10.39	..	73.1	131.0
September	95.1	36.7	94.4	54.1	92.6	181.6	3.74	17.6	10.59	. .	64.8	120.9
October	84.7	39.0	98.7	55.2	84.5	198.1	3.95	18.1	10.60	...	58.0	111.2

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Onions	Pota-toes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1927	122	113	137	109	121	116	136	128	101	...	190	130
1927												
October	125	114	130	111	114	114	136	174	91	...	141	115
November	116	117	127	111	111	114	132	165	91	...	159	113
December	129	124	132	118	114	120	131	153	85	...	155	127
1928												
January	129	128	132	120	116	116	138	151	90	...	149	119
February	133	130	130	118	120	111	155	139	85	...	146	118
March	142	136	137	126	128	112	177	144	85	...	169	125
April	148	140	145	126	131	115	195	151	85	...	172	124
May	158	150	161	130	140	119	192	160	87	...	148	124
June	151	147	145	127	144	119	193	155	89	...	120	130
July	148	135	135	126	137	117	200	165	91	...	105	130
August	138	96	112	103	126	106	186	150	90	...	82	135
September	130	94	108	92	124	106	163	144	91	...	81	130
October	121	100	113	92	116	118	175	150	91	...	84	131

* Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19,3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.84	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1927												
October	135	77	19.7	35.6	43.4	78.62	7.55	11.04	7.05	11.22	30.9	10.16
November	142	75	19.4	41.6	44.5	81.09	8.00	10.67	7.42	11.42	31.1	8.99
December	152	75	19.2	43.3	45.7	82.36	8.32	10.71	7.38	11.39	32.0	8.14
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62
March	177	85	20.1	23.4	43.9	87.95	8.81	11.34	7.85	12.31	35.4	7.48
April	183	85	20.8	22.8	44.0	88.55	8.92	11.18	8.11	12.73	35.6	7.75
May	191	86	21.5	24.2	42.0	89.00	9.09	11.18	8.09	13.03	37.0	8.82
June	189	86	21.5	23.9	42.2	89.90	9.10	11.56	7.84	13.18	38.7	8.70
July	156	85	21.9	25.6	42.4	90.37	9.19	11.87	7.56	12.25	37.6	9.64
August	106	84	21.6	27.4	42.8	90.43	9.51	12.32	7.53	11.88	37.0	10.01
September	97	82	22.3	31.4	44.3	92.56	9.96	13.05	7.58	11.97	36.5	11.17
October	99	80	22.0	34.9	45.2	92.86	9.63	12.62	7.50	11.57	36.0	9.55

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1927												
October	196	56	167	160	168	158	142	157	164	204	181	138
November	196	55	170	163	167	162	154	154	174	209	181	129
December	197	55	178	144	161	165	159	155	169	201	185	121
1928												
January	167	55	183	129	159	176	168	160	163	196	179	111
February	163	57	184	111	161	181	171	167	167	200	186	107
March	163	59	179	109	169	180	167	164	164	198	189	101
April	160	58	181	133	173	179	162	165	160	197	198	102
May	156	60	182	145	170	180	165	170	163	202	208	122
June	154	59	182	143	180	181	167	171	165	209	221	122
July	152	60	184	153	185	184	172	176	166	201	215	133
August	134	60	180	159	181	183	177	179	170	210	208	134
September	138	59	187	163	179	187	186	186	173	213	211	147
October	143	58	186	157	175	186	181	180	174	210	211	129

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	96	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1927										
October	105	53	126	81	85	3.60	11.00	115	130	127
November	98	53	126	80	82	3.60	10.50	120	145	126
December	100	55	128	84	83	3.60	10.20	120	160	125
1928										
January	96	56	128	82	83	3.90	10.20	120	160	123
February	102	58	129	85	87	4.02	9.70	115	175	128
March	105	61	141	90	95	4.47	9.80	130	195	132
April	112	66	153	98	97	4.92	9.80	135	195	136
May	119	76	180	105	105	5.10	9.90	130	200	135
June	118	77	172	110	115	5.28	10.30	100	200	140
July	115	76	160	99	118	5.34	9.70	75	220	137
August	115	60	129	90	104	5.13	9.70	75	120	135
September	116	51	131	77	94	4.74	10.00	80	95	132
October	113	50	138	75	88	4.80	10.50	75	100	129

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1927										
October	133	113	130	108	115	148	72	167	213	72
November	127	115	130	107	114	149	70	214	223	72
December	133	117	131	112	115	148	67	188	216	71
1928										
January	133	124	129	109	117	167	67	188	198	71
February	144	123	129	113	121	172	64	167	201	73
March	148	130	141	117	134	194	63	191	217	75
April	158	135	153	127	133	216	64	196	189	75
May	163	152	180	133	140	217	63	181	177	76
June	157	151	169	138	149	226	63	143	204	78
July	151	149	158	127	140	221	61	109	250	78
August	149	118	134	117	128	209	66	85	174	76
September	143	104	136	101	124	192	66	90	153	75
October	143	106	142	100	119	197	69	109	164	73

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45 1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13 94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8 84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9 05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	43.2	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1927												
October	23.9	48	64.5	50	2.93	117.00	13.20	6.80	5.60	11.20	35	10.50
November	24.2	59	65.8	50	3.07	121.00	13.00	6.40	5.50	11.40	36	10.20
December	24.5	56	53.5	52	3.04	121.00	12.80	6.80	5.50	11.90	38	9.40
1928												
January	24.8	46	49.1	51	2.95	123.00	12.90	6.80	6.00	11.60	37	9.00
February	25.5	40	38.4	50	2.85	127.00	13.20	7.10	6.10	12.50	38	8.90
March	26.8	32	33.7	50	2.53	130.00	13.20	7.00	6.30	13.00	39	8.60
April	26.3	28	32.8	50	2.30	128.00	12.60	7.50	6.30	13.00	42	8.60
May	26.6	26	33.9	49	2.21	123.00	12.20	7.50	5.90	13.20	42	9.40
June	27.1	30	35.6	48	2.11	124.00	12.90	7.60	6.00	14.40	44	9.40
July	26.3	33	38.3	49	2.33	126.00	13.20	7.60	6.70	12.90	43	9.70
August	26.3	38	42.6	49	2.68	124.00	13.70	7.80	6.10	12.50	43	10.30
September	26.6	43	50.9	51	2.83	128.00	14.50	8.20	5.90	12.40	44	11.40
October	26.3	50	58.4	51		130.00	14.40	8.30	6.00	11.60	43	11.00

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1927	173	136	129	161	166	196	146	116	140	187	162	140
1927												
October	154	160	143	161	164	209	149	119	138	187	167	133
November	167	169	120	156	163	215	148	117	140	189	171	137
December	178	137	109	153	159	214	146	125	127	193	181	128
1928												
January	182	121	124	150	155	229	152	129	144	181	168	121
February	182	125	113	152	157	234	158	134	145	195	173	119
March	189	114	130	161	151	232	158	135	147	201	186	111
April	178	133	146	167	158	227	163	140	138	191	200	110
May	179	137	149	169	186	221	166	133	137	202	210	124
June	178	150	145	171	197	218	164	138	142	217	220	127
July	173	150	141	181	185	223	162	139	161	196	205	130
August	166	152	138	175	177	219	162	138	142	198	215	133
September	171	159	139	170	178	224	166	145	145	201	210	144
October	170	167	129	165		232	163	145	148	193	205	139

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net pool price. (+8c for fat −3c for freight).

Wholesale Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mixed feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26 66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29.18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34 00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40.33	44.09
1927												
October	42.29	41.10	41.38	42.48	33.38	34.50	36.88	52.30	47.63	84.80	40.95	43.91
November	42.47	41.30	39.70	43.66	35.75	36.25	37.20	51.50	49.80	79.80	41.76	43.87
December	43.30	41.98	43.50	46.08	37.81	37.63	38.69	51.80	52.23	79.80	43.31	44.81
1928												
January	42.92	43.60	42.40	46.34	38.70	38.60	39.80	53.30	54.80	76.80	44.31	44.56
February	45.13	44.60	42.00	47.08	40.75	40.81	40.81	54.55	55.85	75.80	45.56	45.86
March	45.85	44.60	42.50	48.55	44.25	43.88	44.56	56.93	59.38	74.80	47.22	47.87
April	46.83	44.60	43.13	50.46	41.94	41.94	45.63	58.13	64.51	74.30	47.82	49.06
May	48.32	44.60	47.30	53.86	43.15	45.20	46.25	57.70	70.70	75.80	49.66	52.89
June	46.56	44.60	45.00	54.00	36.94	42.56	44.00	56.33	70.00	75.80	48.07	50.86
July	47.49	44.60	44.50	53.72	34.85	39.94	42.50	54.50	60.98	75.80	46.58	49.45
August	47.25	45.43	43.00	37.85	31.50	31.88	38.25	54.70	55.00	75.80	42.65	44.96
September	46.48	45.80	41.25	36.40	31.94	34.25	36.13	54.58	50.18	75.80	41.97	44.58
October	46.42	45.70	39.30	37.00	34.75	36.00	37.60	58.00	54.81	75.80	43.14	45.53

Index Numbers (corresponding Months, 1910-14=100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1927												
October	137	143	140	137	141	134	141	152	149	159	142	136
November	141	145	138	140	149	144	143	151	158	149	146	138
December	150	142	155	148	153	148	146	151	166	149	149	141
1928												
January	156	144	152	149	149	148	148	154	167	148	150	143
February	165	146	152	148	155	156	151	157	174	145	154	146
March	172	152	159	153	169	168	164	171	186	143	163	153
April	169	160	164	156	163	163	172	174	198	142	167	155
May	168	163	174	165	171	177	177	174	216	145	173	166
June	163	162	164	163	159	171	173	175	213	145	169	160
July	161	169	161	160	149	154	167	169	185	145	165	154
August	150	154	145	114	127	117	145	159	161	145	142	137
September	142	150	132	113	129	126	135	154	147	143	138	135
October	151	159	133	119	147	140	144	168	171	142	149	142

At the present freight rates, Buffalo prices may be obtained by deducting $3.10 per ton from the Utica price; Rochester, $1.20; Little Valley, $1.10; and Syracuse, $0.50 For Watertown prices add $0.10 per ton; Albany, $0.40; Ogdensburg, $0.80; Middletown and Poughkeepsie, $1.20; and Plattsburg, $1.60.

The haulers' income per 100 pounds of milk varied but little between the four groups, and was slightly less for the largest routes. The routes with large loads were much more profitable. The net return for human labor, after deducting all other costs from the income, averaged less than 2 cents an hour for the 6 smallest routes, compared with 70.6 cents an hour for the 8 largest routes.

The relation of size of load to hauling costs is shown graphically in figure 1. The cost of hauling per 100 pounds of milk decreases with increasing size of load. Deviations from the general trend are caused by variation in other conditions such as length of haul, efficiency of the truck, number of stops, wage rates, and the like. Although most of the routes with small loads had high costs per 100 pounds of milk hauled, one route with an average load of only 6.7 hundredweight of milk had a very low cost, only 10 cents per 100 pounds of milk. This hauler used an old Ford truck and was fortunate in having only a small outlay for repairs. About 25 per cent of the cost of operating the truck was deducted on account of other uses. Another reason for the low cost was the fact that the truck was used throughout the year, there being only two days when it was necessary to use a team. This was a short route, the daily trip covering about 9 miles.

The lowest cost, 6.6 cents per 100 pounds of milk, occurred on a route where the average load was 39.5 hundredweight of milk per trip. The round trip on this route was about 9½ miles, all unimproved road. The very low cost was due to the use of a cheap truck, which did not require expensive repairs, and to the large number of trips made during the year. Two trips a day were made during three summer months. Ten per cent of the total truck cost was deducted on account of other uses. All the milk was picked up at a platform, no stops being made between the platform and the milk plant.

A few of the routes with large loads, had comparatively high costs (figure 1). One of these routes had an average cost of 31.6 cents per 100 pounds of milk, although the average load was 29.9 hundredweight of milk. The apparent reasons for the high cost in this case, were: the use of a high priced truck, on which a large depreciation was charged the first year, and a relatively long daily trip, about 25 miles.

LELAND SPENCER

INCOME, COST OF LIVING, AND SAVINGS

A study of the income and the cost of living on 270 dairy farms in the Chenango Valley for the 5 years 1921 to 1925 showed that the farm income varied from −$1373 to +$8041 and averaged $1331. The money expenditures for the farm household or, living costs, averaged $765, or 57 per cent of the farm income.

The operator's capital was $13,339 or $4296 more than the average farm capital in the state.[1] In order to pay interest at the rate of 5 per cent on this capital $667 would be necessary. This is $101 more than the sum remaining after living costs were paid.

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[1] United States Census of Agriculture, 1925, Part I, p. 189, N. Y. Value of all farm property $1,706,929,770. Number of farms 188,754. Value per farm $9,043.

Among the 236 farms on which farm receipts were larger than farm expenses, the income averaged $1602, and living costs averaged $774 or 48 per cent of the farm income. The operator's capital was $13,500; the interest charge $675. This leaves $53 per year to be expended for an increased standard of living, savings, investment, or amortization of the indebtedness which is likely to accompany a farm business representing so much capital. If the farm were mortgaged for one-half its capital, it would take 11 years[2] to pay off the indebtedness, provided the income permitted a payment of $828 (interest plus surplus) each year. However, 13 per cent of the farms made minus incomes; 33 per cent averaged $583; and 32 per cent, $1,468. In other words, 78 per cent of the farms here represented had on the average, a surplus of only $39 after the household expenses were paid.

TABLE 1. RELATION OF FARM INCOME TO THE COST OF LIVING AND SAVINGS. CHENANGO VALLEY, NEW YORK, 1921-25.

Farm income	Number of records	Per cent of total	Average farm income	Average cash cost of living	Per cent living is of income	Difference between income & cash cost of living	Operator's average capital	Interest at 5 per cent	Surplus
Minus	34	13	$ −556	$705	—	$ −1261	$12500	$625	$ −1886
0 − $999	89	33	$ 583	$688	118	$ −105	$10136	$507	$ −612
$1,000-$1,999	86	32	1,469	768	52	+701	$12753	638	63
$2,000 and over	61	22	3,276	906	28	+2370	$19313	966	1404
Total or average of plus incomes	236	87	$1,602	$774	48	$828	$13500	$675	$153
Total or average all records	270	100	$1331	$765	58	$566	$13339	$667	−101

On 33 per cent of the farms, the average farm income was $583; the average cash living costs for food, clothing, and other household expenditures was $688 per year or 118 per cent of the income. It was necessary for these farmers to draw upon savings or go in debt $105 in order to live. If they paid interest at the rate of 5 per cent on their capital of $10,136 they would have lacked $612 of meeting their expenses. On 32 per cent of the farms, the farm income averaged $1,469 and the cost of living was $768 or 52 per cent of the income. There remained after living costs were met $701 of which $638 would be required to meet interest on the average capital of $12,753 and $63 could be devoted to advancement.

On 22 per cent of the number studied, the farm income averaged $3,276. After paying $906 for household expenses and $996 for interest on an investment of $19,313, the surplus was $1,404.

Among this selected group of farms which is above the average in type, size, and efficiency, only 22 per cent were able to provide savings for old age, amortization of the indebtedness on the farm, college educations for children, or to increase the standard of living.

MARTHA HUDGINS

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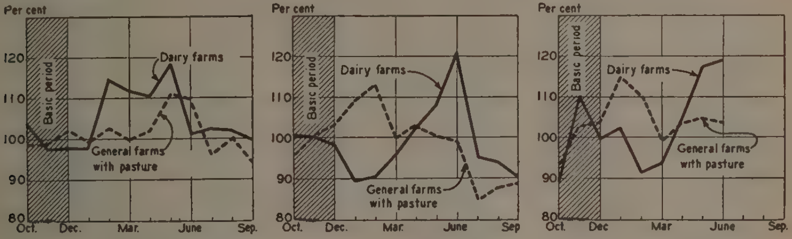
[2] $$N = \frac{-\log \frac{(1 - Ai)}{R}}{\log (1 + i)}$$

A = Indebtedness
i = rate of interest
R = yearly payment, interest + payment.
N = number of years needed to pay off debt.

SEASONAL VARIATION IN MILK PRODUCTION IN THE PHILADELPHIA MILK SHED[1]

From 1921 to 1925, the range in the seasonal variation of milk purchased under the basic-surplus plan for the Philadelphia market was reduced from 54 to 23 per cent. An increase in winter milk production and a decrease in summer production, were necessary to bring about this change. For the purpose of supplying city consumers with fluid milk, a fairly even production throughout the year is desirable. A higher winter price for milk for fluid uses is one of the most important incentives for farmers to change production in accordance with the demand for fluid milk.

Realizing that surplus milk constitutes a serious problem for farmers as well as for milk distributers, the Interstate Milk Producers' Association of the Philadelphia territory aimed to give the farmers an incentive to curtail summer production and increase production in the fall and early winter by paying a higher price throughout the year for the "basic" amount of milk than for the surplus above this amount. The basic amount of milk is the average amount produced in October, November and December.[2]



1921-22　　1924-25　　1925-26

FIGURE 1. SEASONAL VARIATION IN MILK PRODUCTION ON DAIRY FARMS, AND ON GENERAL FARMS WITH PASTURE, 1921-22, 1924-25 AND THE FIRST NINE MONTHS OF 1925-26.

(Average daily production during the basic period equals 100.)

The seasonal variation in milk production on dairy farms and general farms with pasture were similar. The variation was greater in 1924-25 and 1925-26 than in 1921-22.

The range in seasonal production of milk in the Interstate territory is shown in figures 1 and 2. Seasonal variation in milk production on dairy farms and on general farms with pasture was greater in 1925-26 than in the earlier years. From 1921-22 to 1925-26, the range in seasonal variation increased 9 per cent of the basic amount on the dairy farms and 10 per cent on the pasture farms.

On crop farms and on general farms with little pasture, seasonal variation in milk production decreased during this period. From 1921-22 to 1925-26, the range of production on crop farms decreased 30 per cent of the basic amount, and on the general farms with little pasture, 14 per cent.

Producers selling under the basic-surplus plan are much concerned with the surplus milk during the months following the basic period. This is particularly true during the four months January, February, March and April, when the cost of milk production is high and surplus milk sells at a low price. By special effort involving additional expense, a producer may raise his basic amount so high that he does not maintain it during the following nine months. If the cost of raising the basic amount is greater than the gain obtained by having a high basic amount, the adjustment has gone too far. Such a producer would be better off if he sold more surplus.

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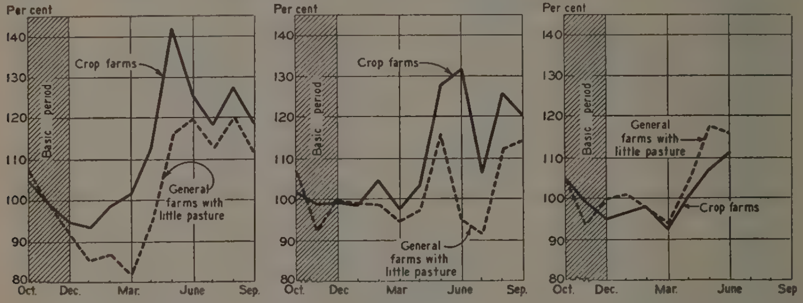
[1] This report is an extract from a study of the relation of the basic-surplus marketing plan to milk production in the Philadelphia milk shed. The study was carried on by the Department of Agricultural Economics, Pennsylvania State College, in cooperation with the Bureau of Agricultural Economics, United States Department of Agriculture.

[2] The details of this plan, known as the "basic-surplus" plan, and some of the economic principles involved, with accomplishments, are discussed in Bulletin 208 of The Pennsylvania State College.

TABLE I. AMOUNT OF SURPLUS MILK PER MONTH IN PER CENT OF THE MONTHLY BASIC AMOUNT AND THE NUMBER OF MONTHS SURPLUS MILK WAS SOLD, 1922 AND 1924.

Year	General farms with pasture	Dairy farms	General farms with little pasture	Crop farms	General farms with pasture	Dairy farms	General farms with little pasture	Crop farms
	Percent surplus	Percent surplus	Percent surplus	Percent surplus	Months	Months	Months	Months
1922	26.0	62.3	81.5	148.4	5	7	5	7
1924	25.6	31.5	42.9	121.1	4	3	3	7
Difference	0.4	30.8	38.6	27.3	1	4	2	0

General farms with little pasture reduced the total surplus production 38.6 per cent of the monthly basic amount. Dairy farms reduced the total surplus 30.8 per cent and had a surplus only during April, May and June, in 1924, compared with seven months in 1922. Crop farms reduced 27.3 per cent. General farms with pasture made practically no change.



1921-22 1924-25 1925-26

FIGURE 2. SEASONAL VARIATION IN MILK PRODUCTION ON CROP FARMS, AND ON GENERAL FARMS WITH LITTLE PASTURE, 1921-22, 1924-25 AND THE FIRST NINE MONTHS OF 1925-26.

(Average daily production during the basic period equals 100.)

The seasonal variation in milk production on crop farms and general farms with little pasture were similar. The variation was much less in 1924-25 and 1925-26 than in 1921-22.

Adjustment to the basic-surplus plan of selling milk, which means a more uniform production, is best adapted to farms with little pasture, and crop farms. Farms with much pasture cannot, as a rule, profitably utilize pasture and produce an even flow of milk through the year. However, the dairy farms with considerable permanent pasture, 29 acres, reduced the total surplus almost as much as farms with only 11 acres of permanent pasture. The data indicate that when the main source of income is from milk, as on dairy farms, special attention is given to "evening up" production. In many instances, the proportion of surplus milk is small because of heavy basic production. The reduction in total surplus was made regardless of the fact that the range in monthly production for dairy farms increased from 1921-22 to 1925-26. It is evident that, dairy farms and general farms with pasture over-adjusted in 1924-25, figure 1.

Low production during the summer of 1925 was due partly to unusual weather conditions. It was the coldest May in 38 years. There were heavy snowfalls in the northern part of the state on May 24 and 25. During the month of June, all previous records for heat were broken. June and August rainfall were deficient, a drought prevailing over the Interstate territory.

The unfavorable weather for milk production during the summer of 1925 illustrates a handicap placed on producers by the basic-surplus plan. In the fall of 1924, producers maintained a high basic production, presumably intending to maintain the high production during the following nine months. However, due primarily to weather conditions, subsequent production was considerably below the basic production. Extra expense was involved in maintaining a high basic production, which could not be offset by selling a large quantity of pasture-produced milk the following spring and summer at the basic price. It was "water over the dam," so to speak, an added cost under the basic-surplus plan for that year.

The uncertainty of weather conditions often make uniform production difficult. Due to weather conditions, high production in the basic period may be extremely difficult. Under such conditions, basic production may often be low. If production be high the following summer, a large quantity of milk must be sold at surplus prices. Under such circumstances, producers are decidedly handicapped.

These uncertainties are constantly threatening to increase costs and lower returns to producers selling under the basic-surplus plan. It is true that producers selling under a flat price are subject to the same conditions. However, the true conditions of supply at the particular time are more likely to be reflected in prices. The basic producer, however, must expect to get back during the following summer the extra cost of producing a large volume of milk during the basic period.

On the other hand, if conditions be favorable for milk production during the basic period, and continue to be favorable the following summer, the producer is fortunate.

F. F. LININGER

RELATION OF SEASONAL VARIATION IN MILK PRODUCTION TO THE NUMBER OF COWS IN MILK AND STAGE OF LACTATION

Dairy farming studies made in Chenango and Madison Counties included 296 herds with 6,306 cows in which more than 50 per cent of the

TABLE 1. COWS FRESHENING, DRY AND MILKING, EACH MONTH IN WINTER DAIRIES

	Alfalfa 106 farms 1889 cows			Mixed hay 190 farms 4417 cows			All herds 296 farms 6306 cows		
	Per cent of cows								
	Freshening	Dry	Milking	Freshening	Dry	Milking	Freshening	Dry	Milking
May	2.2	2.1	97.9	3.0	1.7	98.3	2.8	1.7	98.3
June	1.2	3.9	96.1	1.0	4.0	96.0	1.0	3.9	96.1
July	0.9	18.6	81.4	0.7	19.9	80.1	0.7	19.6	80.4
August	3.0	39.8	60.2	3.3	37.2	62.8	3.2	37.9	62.1
September	15.6	43.1	56.9	16.6	38.4	61.6	16.4	39.6	60.4
October	24.2	30.3	69.7	20.6	30.2	69.8	21.5	30.2	69.8
November	18.9	17.2	82.8	17.8	19.5	80.5	18.1	18.9	81.1
December	11.4	10.2	89.8	12.4	11.6	88.4	12.1	11.3	88.7
January	5.8	10.8	89.2	7.1	11.3	88.7	6.8	11.2	88.8
February	4.4	12.4	87.6	4.5	13.0	87.0	4.5	12.9	87.1
March	6.4	8.2	91.8	6.8	9.2	90.8	6.7	9.0	91.0
April	6.0	3.4	96.6	6.2	4.0	96.0	6.2	3.8	96.2
Average	8.3	16.7	83.3	8.3	16.7	83.3	8.3	16.7	83.3

cows freshened from September to December inclusive[1] The per cent of the cows freshening each month, the per cent of the cows dry each month, and the per cent of the year's total output of milk produced in each month in these winter dairies are given in figure 1.

Seasonal variation in milk production is due primarily to the total number of cows in milk and their mean stage of lactation.

Usually, cows are dry 2 months and in milk 10 months of the year. The average number of months the cows had been milked was calculated for each month of the year, from the data in table 1 and is shown in table 2. This was divided into the per cent of the herd in milk, to get an index of the relative production anticipated in different months from these factors. Relative production = Per cent of herd in milk times

$$\frac{1}{\text{Average months cows milked.}}$$

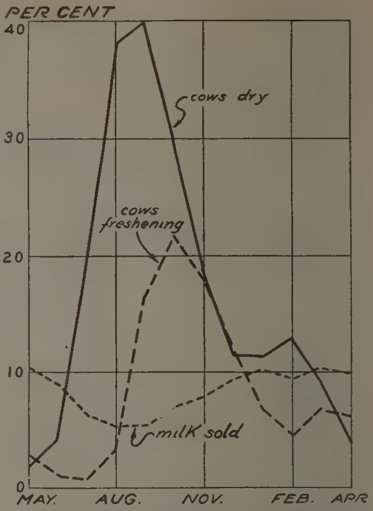


FIGURE 1. COWS DRY, COWS FRESHENING AND MILK PRODUCTION IN 296 WINTER DAIRIES WITH 6306 COWS. Although most of the cows freshen from September to December, the milk production has not reached its maximum because of the large proportion of dry cows.

The intake of winter feed and the kind of winter feed which are governed to some extent by milk and feed prices, the abundance and quality of pasture and after feed, and the weather conditions are additional factors of importance in determining the production of a dairy, but these are not considered here.

TABLE 2. MEAN MONTH OF LACTATION, INDEX OF EXPECTED PRODUCTION AND DISTRIBUTION OF MILK PRODUCTION

	Alfalfa roughage			Mixed hay roughage			All herds		
	106 farms 1889 cows			190 farms 4417 cows			296 farms 6306 cows		
	Average months milked †	Per cent of herd milking divided by average months milked* A	Per cent of total years milk produced in succeeding month B	Average months milked	Per cent of herd milking divided by average months milked C	Per cent of total years milk produced in succeeding month D	Average months milked	Per cent of herd milking divided by average months milked E	Per cent of total years milk produced in succeeding month F
May	6.6	14.8	9.0	6.5	15.1	9.0	6.5	15.1	9.0
June	7.4	13.0	6.5	7.3	13.2	6.3	7.3	13.2	6.3
July	7.8	10.4	5.6	7.6	10.5	5.3	7.7	10.4	5.4
August	7.5	8.0	5.2	7.5	8.4	5.4	7.5	8.3	5.4
September	5.7	10.0	6.5	5.7	10.8	7.1	5.7	10.6	7.0
October	4.0	17.4	7.5	4.3	16.2	8.0	4.2	16.6	7.8
November	3.7	22.4	9.4	3.8	21.2	9.3	3.8	21.3	9.3
December	3.9	23.0	10.4	4.0	22.1	10.0	4.0	22.2	10.1
January	4.2	21.2	9.6	4.2	21.1	9.3	4.2	21.1	9.4
February	4.6	19.0	10.2	4.6	18.9	10.4	4.6	18.9	10.3
March	5.1	18.0	9.6	5.0	18.2	9.9	5.1	17.8	9.8
April	5.8	16.7	10.4	5.7	16.8	10.0	5.7	16.9	10.2

†The mean month of lactation was calculated by considering cows freshening in a given month as in the first month of lactation in that month and so on.

*The method is the same as multiplying the per cent of the cows in milk by $\frac{1}{\text{Average months milked}}$

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[1] Misner, E. G. Economic Studies of Dairy Farming in New York. I, II, III, IV, V, VI, VII, IIIA. Cornell University Exp. Sta. Buls. 421, 433, 438, 452, 455, 461, 462.

There is a close dependence of monthly variation in milk production on number of cows in milk and the mean month of lactation.[2] This relationship is shown in figure 2. The succeeding months production is used, because one month is required for cows to attain their best milk flow, and also because some freshen near the end of the month.

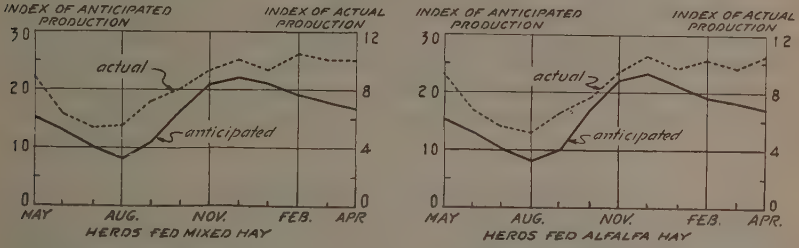

FIGURE 2. RELATION OF THE INDEX OF ANTICIPATED MILK PRODUCTION TO THE ACTUAL PRODUCTION

Milk production, as anticipated from the number of cows in milk during the previous month and their stage of lactation, follows closely the actual production.

From November to February cows do not give as much milk as would be expected from the number milking and the stage of lactation as they do from March to October (figure 2). This is due to cold weather and to the fact that winter feeding is less stimulating to production than pasturage. July and August also are months when production is low. These are months when pasture gets short and the grass hard, temperatures are extreme, flies active, and when most of the cows in a winter dairy are stripping.

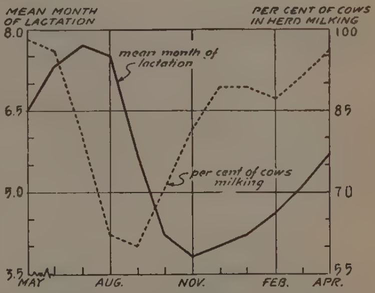

FIGURE 3. PER CENT OF COWS IN MILK AND THE MEAN MONTH OF LACTATION ON 296 WINTER DAIRIES WITH 6306 COWS.

The low production from July to October is due to the low per cent of the cows in milk and the large number of "strippers."

The mean month of lactation and per cent of cows in milk each month are shown in figure 3. In a winter dairy, the months of shortest production are July, August and September when a large percentage of the cows are dry, most of the others stripping, and pasture poor.

One of the most effective ways of decreasing the milk shortage in the fall months of September, October and November is by having a larger number of cows in winter dairies freshen in July, August and September. This is a time of year when dairy farmers are busy with crop work and filling silos. The growing and harvesting of crops, silo filling, potato digging, and cabbage harvesting require much time. In September cooler weather comes and cows freshening in the open need greater attention. For these reasons and because the prices during July, August and September have not been sufficient to more than compensate for the disadvantages of having cows freshen earlier in the fall, winter dairymen have most of their cows freshen from October on. The way to help the milk shortage in October and November is to assure farmers in advance of a price in July, August and September sufficiently high so that winter dairymen will be encouraged to have more of their cows freshen earlier in the fall. A high price for milk in October and November does not come early enough to help the shortage in those months. If farmers were assured of an encouraging price for milk in August and September, so that they could afford to give cows that freshen in those months more attention in the way of better care and by turning them on after-feed a part of the day, there would be no milk shortage in October and November.

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[2] The coefficient of correlation of this index of expected production with the per cent of the years production in the succeeding month was +0.83 with alfalfa, +0.85 with mixed hay roughage, and +0.82 for the 296 herds with 6306 cows.

E. G. Misner

LABOR COSTS AND RETURNS[1]

Product per worker has long been one of the important tests of the efficiency of American farmers. Labor, rather than land, equipment, or other factors of production, has been, and still is, the scarce and high-cost factor. For several years, the unfavorable relation of agricultural prices and farm labor costs has made the problem of labor efficiency more pronounced than ever. Farmers are now very much concerned with reduction of labor costs, greater uses of labor-saving machinery, increases in output per worker, and reduction of elimination of unprofitable enterprises.

The data presented in this article are for the purpose of pointing out: (1) The large percentage which labor is of the total cost of production of farm products; (2) labor costs on some of the more successful farms; and (3) labor returns from some of the common enterprises on these farms.

Importance of Labor Costs

Detailed cost records show that for most crops, labor makes up a larger proportion of the total cost of production than any other single item of cost. For the cultivated crops such as field beans, cabbage and potatoes, the cost of labor is from one-fourth to two-fifths of the total cost of production; for the small grain crops, from one-fifth to one-fourth; and for hay, one-sixth of the total cost.

TABLE 1. PERCENTAGE WHICH LABOR IS OF THE TOTAL COST OF CROP PRODUCTION

Crop	1918–23	1927
Cabbage	39.2	43.0
Apples	37.4	37.6
Peaches	33.1	35.7
Potatoes	31.4	25.3
Alfalfa	27.4	25.1
Beans	26.0	25.8
Buckwheat	24.6	25.2
Corn silage	22.2	23.2
Oats	21.0	24.2
Wheat	18.6	21.1
Hay	16.4	18.9

Recent studies[2] by Dr. E. G. Misner show that labor costs are from 20 to 22 per cent of the cost of egg production, and from 19 to 25 per cent of the cost of milk production.

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[1] Based on cost records kept by 158 New York farmers in cooperation with the Department of Agricultural Economics and Farm Management, Cornell University, Ithaca, N. Y.

[2] Misner, E. G., Economic Studies of Dairy Farming in New York. Cornell Univ. Agr. Exp. Sta. Bul. 421, 433, 438, 441, 442, 452, 455. Misner, E. G., Economic Studies of Poultry Farming in New York, I and II, Mimeographed reports.

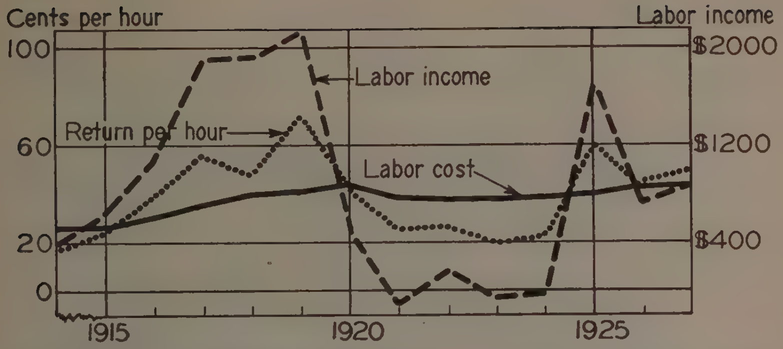

FIGURE 1. LABOR INCOME, RETURNS PER HOUR, AND COST OF LABOR, 1914–1927. Costs of farm labor lag behind prices of farm products when prices are rising as well as when prices are falling. With rising prices, farm laborers increase the incomes of their employers more than the cost of their wages. With declining or low prices of farm products, farm laborers do not increase the earnings of their employers enough to pay for the costs of their labor.

Cost of Farm Labor

In 1914, the average cost of an hour of man labor was 25.1 cents. Rising wages and higher values of perquisites increased the cost of labor each succeeding year until in 1920 it was 43.7 cents. In 1927, it averaged 43.9 cents. From 1921 to 1925, the cost of labor ranged from 37 to 40 cents per hour (table 3). The upward trend of farm labor costs will probably continue, but will be accompanied by an increase in product per worker.

In 1927, the cost of all labor averaged $3401 per farm. The average value placed by the operators on their own time for the year was $1074. The value of privileges they received was $762 per farm. These two items made up 54 per cent of the total labor cost; cash wages paid to hired labor and board and privileges furnished, 33.8 per cent; and unpaid family labor, 12.2 per cent.

The labor cost per hour varied from 27.9 cents to 63.3 cents. The average for all farms was 43.9 cents.

TABLE 2. LABOR COSTS ON 35 FARMS, 1927

Item of cost	Average per farm	Per cent of total cost
Cash paid hired labor	$898	26.4
Value of privileges to hired labor	140	4.1
Value of board furnished hired labor	111	3.3
Value of operator's time	1074	31.6
Value of privileges to operator	762	22.4
Value of unpaid labor	416	12.2
Total cost	$3401	100
Hours worked	7884	
Cost per hour	43.9 cents	

Labor Returns

The relative profitableness of farm enterprises may be expressed as profit per acre, per animal, per unit of product, or per hour of labor spent on the enterprise. Returns per hour of labor[3] is the most useful measure.

For the past 14 years, farmers have received an average of 30 cents an hour for the time spent on dairy cows. From 1923 to 1927, labor returns on cows increased from 14 to 54 cents an hour. The favorable outlook

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[3] Returns per hour of labor is calculated as follows: From the total returns, deduct all costs, other than labor, and divide the remainder by the hours of labor.

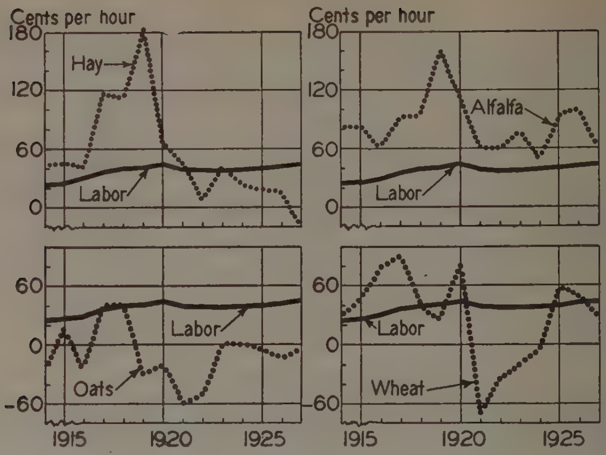

FIGURE 2. COSTS AN HOUR OF LABOR AND RETURNS PER HOUR OF LABOR ON HAY, ALFALFA, OATS AND WHEAT, 1914–27

Until 1920, hay was a very profitable crop. Since then, labor returns on this crop have averaged only 24 cents an hour.

Alfalfa is one of the crops that has shown consistently good labor returns.

Although few farmers make wages for the time they spend on oats, it is difficult to find a profitable and practical substitute for this nurse crop.

Wheat, like hay, was very profitable before and during the war. Average yields of 20-25 bushels or better must now be obtained to realize profits on this crop.

for dairying for the next few years indicates that farmers will probably continue to earn a good rate of pay for the time spent on the dairy.

In all but three of the past 13 years, poultry has more than paid wages. For the past five years, poultry has paid 44 cents an hour for the time spent on it. In 1917, the returns from this enterprise were not sufficient to pay all costs other than labor, and farmers received nothing for their time spent on poultry. The best year was 1920, when farmers received $1.63 for each hour spent on poultry.

Alfalfa, apples, cabbage, potatoes and wheat are some of the important crops which have paid well over a period of years, and still show favorable labor returns.

Barley, beans, buckwheat, oats, and corn for grain have been profitable for some New York farmers, but decidedly unprofitable for others. Averages for a number of accounts with these crops indicate low labor returns or losses (table 4). However, there are a few farmers who, even in the years of general agricultural depression, made good wages on these crops (table 3).

TABLE 3. AVERAGE LABOR RETURNS ON SOME NEW YORK FARM ENTERPRISES. (Cents per hour)

Enterprise	Average of all accounts			Average of 3 best accounts, each year		
	1914–27	1923–27	1927	1914–27	1923–27	1927
Cows	30	31	54	67	63	100
Poultry	55	44	50	102	101	127
Alfalfa	85	77	61	163	156	236
Apples	—	63	99	—	121	231
Barley	−6	−10	17	50	76	73
Beans	−5	−49	−50	46	28	19
Buckwheat	−4	−21	−45	34	12	19
Cabbage	39	21	−7	103	63	34
Corn for grain	0	−17	−14	30	20	20
Hay	53	17	−17	199	140	90
Oats	−9	−4	−5	66	56	23
Potatoes	71	110	106	176	217	247
Wheat	29	23	30	122	110	110

TABLE 4. AVERAGE LABOR RETURNS ON SOME NEW YORK FARM ENTERPRISES 1914 TO 1927*
(Cents per hour)

Year	Cows	Alfalfa	Poultry	Apples	Barley	Beans	Buckwheat	Cabbage	Hay	Potatoes	Wheat	Oats	Corn for grain	Average
1914	18	82	—	—	−37	34	2	8	45	−1	30	−20	14	17
1915	12	83	33	—	26	58	5	−6	46	38	49	18	8	24
1916	27	60	30	—	−26	−7	−11	132	42	134	79	−24	0	39
1917	50	93	−2	—	43	−7	68	72	117	18	91	40	25	56
1918	42	94	50	—	10	−19	−42	24	114	54	42	39	16	48
1919	55	159	127	—	−3	34	57	124	181	95	30	−29	29	71
1920	27	110	163	69	−34	−12	−28	5	73	45	80	−20	3	41
1921	10	62	57	79	−64	−1	−3	100	25	59	−69	−59	−5	25
1922	21	62	45	106	−56	96	−1	−16	8	−1	−34	−50	−9	26
1923	14	79	30	25	15	−1	−30	11	43	56	−20	2	−25	20
1924	15	49	40	82	40	−35	27	4	24	16	−4	2	−2	22
1925	35	96	62	73	20	−123	−10	62	20	233	59	−5	−8	60
1926	38	101	36	37	−40	−38	−45	36	17	139	49	−12	−36	40
1927	54	61	50	99	17	−50	−45	−7	−17	106	30	−5	−14	50
14 year average, 1914–27	30	85	55	71	−6	−5	−4	39	53	71	29	−9	0	
5 year average, 1923–27	31	77	44	63	−10	−49	−21	21	17	110	23	−4	−17	

*All enterprise averages are for 14 years except poultry and apples, the former being for 13 years and the latter for 8 years.

Cost records on a few enterprises not listed in this table show average labor returns in 1927 as follows: Canning factory corn (4 farms), 13 cents; canning factory peas (6 farms), 55 cents; tomatoes (2 farms), 118 cents; and peaches (2 farms), 62 cents.

Relation of Labor Costs and Labor Returns

From 1914 to 1919, index numbers of prices of New York farm products doubled, while the cost of an hour of farm labor increased only 64 per cent. This lag in labor costs was favorable to farm operators. In 1914, average returns per hour of labor were only 17 cents, while in 1919 they had increased to 71 cents. In 1920, wages paid to hired men, and other farm labor costs, did not decline as rapidly as prices of farm products. In all but two years since 1919, labor costs have exceeded labor returns, and farmers who hire considerable labor have been at a great disadvantage.

TABLE 5. LABOR COSTS, LABOR INCOMES AND RETURNS PER HOUR OF LABOR 1914–1927.

Year	Cost of an hour of labor	Returns per hour of labor‡	Labor income*
	cents	cents	dollars
1914	25.1	17.0	401
1915	26.0	24.0	624
1916	30.3	39.0	1081
1917	35.6	56.0	1887
1918	39.6	48.0	1932
1919	41.4	71.0	2099
1920	43.7	41.0	403
1921	39.0	25.0	−191
1922	37.7	26.0	163
1923	37.8	20.0	−117
1924	39.0	22.0	−55
1925	39.5	60.0	1627
1926	42.8	40.0	686
1927	43.9	50.0	826
14-year average 1914–1927	37.2	38.5	812
5-year average 1923–1927	40.6	38.4	593

‡Based on approximately 70 per cent of the total hours of labor. Time spent in maintaining buildings and fences, in care of work animals, and on minor enterprises, was not included in computing these averages.

*Two vegetable gardening farms were omitted from the labor income averages because their major enterprises were not represented in the average returns per hour of labor.

The more labor costs exceed labor returns, the lower the operator's earnings. Conversely, the more that labor returns exceed labor costs, the greater the operator's earnings (figure 1).

Farm labor costs per hour fluctuated little. Labor returns, however, varied greatly. Wide ranges in yields and prices increased the possibilities either for large profits or large losses.

In planning adjustments in the farm business, the successful operator considers not only what enterprises can be fitted into his organization, but also the relative returns he may expect from them. Further, he considers the long-time as well as the short-time adjustments.

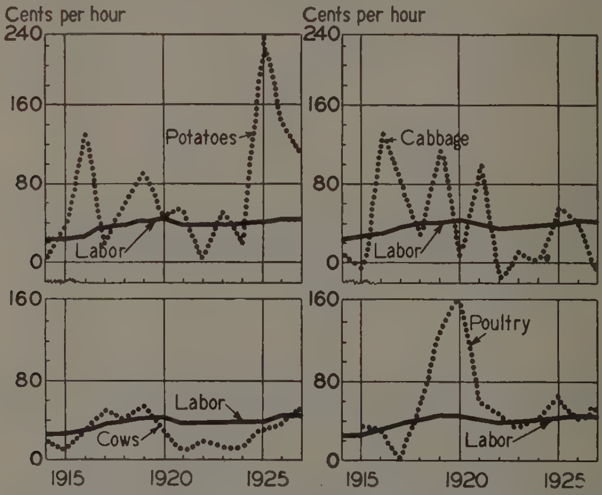

FIGURE 3. COSTS OF AN HOUR OF LABOR AND RETURNS PER HOUR OF LABOR ON POTATOES, CABBAGE, COWS AND POULTRY. 1914–27

Potatoes and cabbage are speculative crops, but during the past 14 years profits exceeded losses.

Labor returns from the dairy enterprise have been lower than the cost of labor more years than they have been higher. The present favorable relation will probably continue for two or three years.

The poultry enterprise was profitable from 1918 to 1922. Since the depression in prices, labor returns from this enterprise have been higher than labor costs.

Some enterprises, such as hay, wheat and beans, which, before or during the war, showed high labor returns on many farms, are no longer profitable. On the other hand, some enterprises, such as dairy cows and cabbage, which may be unprofitable for short periods, may pay very well over a long period of years. Good organization of a farm business will include some of the more stable enterprises as well as some that are speculative.

From 15 to 20 per cent of all farm labor is spent in maintaining buildings, fences, equipment and caring for work animals. From 80 to 85 per cent of the time is spent on enterprises that are directly productive. On farms where three-fourths or more of the productive work is spent on a combination of such enterprises as alfalfa, cows, poultry, potatoes, and cabbage, the operators should make interest on their investment as well as a fair rate of pay for their time.

J. F. HARRIOTT and L. E. CRUIKSHANK

USE OF FERTILIZER, LIME AND MANURE ON CHENANGO VALLEY DAIRY FARMS

Farmers are using higher quality fertilizers than formerly. From 1921 to 1925 the per cent of farmers using fertilizers with little or no nitrogen on peas for market decreased from 62 to 20 per cent. The per cent of the farmers using the high quality fertilizers containing four or more per cent nitrogen increased from 4 to 23 per cent (table 1). Similar changes were made in the fertilizers used on corn and cabbage. In 1925, approximately one-half of the fertilizer used contained 2 per cent nitrogen. This change to higher nitrogen fertilizer agrees with the increase in the guaranteed nitrogen content that has been taking place in recent years.

TABLE 1. CHANGES IN THE QUALITY OF COMMERCIAL FERTILIZERS USED ON 509 NEW YORK DAIRY FARMS. CHENANGO COUNTY, 1921-1925

		Per cent of farms using fertilizers containing:		
		Little or no nitrogen	2 per cent nitrogen	4 per cent nitrogen
Corn silage				
	1921	30	63	7
	1922	24	67	9
	1923	18	62	20
	1924	15	59	26
	1925	21	52	27
Cabbage				
	1921	25	60	15
	1922	24	54	22
	1923	21	56	23
	1924	21	48	31
	1925	20	51	29
Market peas				
	1921	62	34	4
	1922	42	48	10
	1923	27	60	13
	1924	34	49	17
	1925	20	57	23

Practically all of the farms in this area grew corn for the silo, and mixed hay. Nearly three-fourths of the farms grew cabbage and slightly less than one-half grew market peas (table 2).

TABLE 2. PER CENT OF FARMS USING LIME, MANURE, AND FERTILIZER ON DIFFERENT CROPS. 509 DAIRY FARMS. CHENANGO COUNTY, 1921-25

	Corn silage	Mixed hay	Market peas	Cabbage	All farms
Per cent of farms growing the crop	93	99	46	76	—
Per cent of farms using:					
Lime	2	43	6	20	47
Fertilizer	54	0	75	74	86
Manure	83	86	15	62	100

Three-fourths of the farms growing peas or cabbage used commercial fertilizers on these crops. Of the farms growing corn for the silo, 54 per cent used commercial fertilizer on corn. No commercial fertilizer was used on 14 per cent of the farms.

Lime was used on 47 per cent of these farms. Most of the lime was distributed on the small grain crops for the succeeding year's hay or on cabbage.

The quantities of lime, manure, and fertilizer used per acre of crops have not changed materially since 1921. In that year, due to the high prices of lime and fertilizer and the low prices received for farm products, less than normal amounts of both lime and fertilizer were used.

The prices per ton of lime and commercial fertilizer have declined during this period. However, with the continued low purchasing power of farm products, these lower prices have not stimulated the use of lime or fertilizer. Since more of the high-nitrogen fertilizers have been used especially in the last three years, the average price of fertilizer is increasing slightly.

Of the farms growing market peas only 15 per cent used manure on peas while 62 per cent of the cabbage growers placed manure on cabbage land and more than 80 per cent of those growing corn silage or mixed hay distributed manure on these crops.

The quantities and cost of the fertilizer, lime and manure used per acre in five successive years on 509 dairy farms in the Chenango area are given in table 3.

TABLE 3. QUANTITY AND VALUE OF LIME, FERTILIZER AND MANURE USED BY 509 DAIRY FARMS. CHENANGO COUNTY, 1921-25

	1921	1922	1923	1924	1925
Quantity per acre of crops grown:					
Lime, pounds	125	143	154	134	151
Fertilizer, pounds	67	85	87	89	88
Manure, tons	3.9	4.2	4.2	3.9	3.9
Value per acre of crops grown:					
Lime	$0.34	$0.38	$0.38	$0.32	$0.34
Fertilizer	1.26	1.47	1.34	1.36	1.42
Manure	7.68	7.73	5.84	6.51	6.51
Value per ton:					
Ground limestone	$ 5.26	$ 5.36	$ 4.82	$ 4.72	$ 4.50
Commercial fertilizer	37.55	34.69	30.83	30.65	32.30
Manure	1.97	1.84	1.39	1.67	1.67

P. H. STEPHENS

THE COST OF PRODUCING APPLES ON 129 FARMS, NEWFANE TOWNSHIP, NIAGARA COUNTY, 1926

Newfane Township, Niagara County, is in the heart of the Western New York fruit belt. It borders on Lake Ontario and most of the soils within two or three miles of the lake shore are in the Dunkirk series and are unusually well adapted to fruit. The soils in the other parts of the township are more variable. Some of the best orchards are found where the Dunkirk soils predominate, and some very poor orchards are located on the Clyde series. The Dunkirk soils are well drained while the Clyde soils, which were originally laid down in the same way as the Dunkirk, have been modified by poor drainage conditions. The Clyde series is composed of a fine sandy loam type and a loam. The Dunkirk series is made up of the same types, but also includes a more coarse type, the Dunkirk gravelly sandy loam.

The average size of farm on the Dunkirk soils was 74 acres, and on the Clyde soils 58 acres. The average amount of bearing and non-bearing orchards on the Dunkirk soils was 30 acres and on the Clyde 12 acres. Real estate was valued on the average at $271 and $176 per acre on the Dunkirk and Clyde soils respectively.

This report covers a study of 129 apple orchard blocks over 30 years old for the crop year 1926. Seventy-five of the orchards were on farms classified as having a predominance of Dunkirk soils, and 54 were on farms that were largely Clyde. The apple orchards alone were valued on the average at $411 an acre on the Dunkirk soils and $298 on the Clyde.

The total cost of growing apples up to picking time was about $80 per acre on the Dunkirk soils and $69 on the Clyde (table 1.) When credit is given for wood and cull apples the net cost per acre is $71 and $61 on the Dunkirk and Clyde soils respectively. The relative importance of the individual items in the cost per acre on the two soil series are, in most cases, nearly the same. The difference in total cost per acre is due largely to the higher cost of interest on the value of the orchard and to the larger amount paid for spray and dust material on the Dunkirk soils. The charge for horse labor and general equipment is higher on the Clyde soils, because there are fewer tractors on the Clyde farms. The farmers on the Clyde soils have more livestock and less orchard so they used more manure and less fertilizer. The three largest items, human labor, interest, and spray material made up 65 per cent of the total growing cost on the Dunkirk soils and 62 per cent on the Clyde.

TABLE 1. THE AVERAGE COSTS OF GROWING APPLES ON 129 ORCHARDS OVER 30 YEARS OLD, NEWFANE TOWNSHIP, NIAGARA COUNTY, NEW YORK, 1926*

Item	Cost per acre		Cost per packed barrel	
	Dunkirk (635 acres)	Clyde (257 acres)	Dunkirk (49,717 barrels)	Clyde (9,432 barrels)
Man labor	$21.49	$20.13	$0.27	$0.55
Interest on orchard	20.19	14.89	0.26	0.41
Spray	10.63	7.93	0.14	0.22
Horse labor	4.89	6.79	0.06	0.18
Sprayer	4.42	4.89	0.06	0.13
Taxes	4.01	3.03	0.05	0.08
Tractor	3.76	2.40	0.05	0.07
Dust	3.65	.27	0.05	0.01
Manure	1.87	4.43	0.02	0.12
Fertilizer	1.86	.40	0.02	0.01
Other equipment	1.62	2.92	0.02	0.08
Interest on costs	1.13	.86	0.01	0.02
Duster	.41	.03	0.01	—
Other expenses	.06	.09	—	—
Truck	.04	.01	—	—
Total cost	80.03	69.07	1.02	1.88
Credits				
Wood	1.95	1.83	0.02	0.05
Cull apples	6.95	6.21	0.09	0.17
Net cost of growing apples	71.13	61.03	.91	1.66

*Depreciation on the orchard is not included.

The orchards on the Dunkirk soils yielded 78 barrels per acre, while those on the Clyde produced only 37 barrels. Since the cost per acre was nearly the same on the two soils the net cost of growing a barrel of apples up to picking time was $0.91 on the Dunkirk soils and $1.66 on the Clyde soils. The cost of human labor per barrel was twice as high on the Clyde as on the Dunkirk soils. All the other costs except dust and fertilizer were higher per barrel on the Clyde than on the Dunkirk soils.

The hours of human labor required to grow, pick, pack, and haul apples are given in table 2. When all of these operations were performed on the farm, it required 140 hours of human labor per acre on the Dunkirk soils and 103 on the Clyde. Nearly half of the apples on the Dunkirk farms were hired packed in a packing house, so the average hours spent per acre for all Dunkirk farms was 122. All of the farmers on the Clyde soils packed their apples on the farm. To grow, pick, pack, and haul a barrel of apples, it required 1.8 hours on the Dunkirk soils and 2.8 hours in the Clyde.

TABLE 2. THE AVERAGE HOURS OF MAN LABOR REQUIRED TO PRODUCE APPLES ON 129 NEWFANE ORCHARDS OVER 30 YEARS OLD, 1926

Operation	Hours per acre		Hours per barrel	
	Dunkirk soils	Clyde soils	Dunkirk soils	Clyde soils
Growing	50	47	0.64	1.29
Picking	38	27	0.48	0.74
Packing on farm	38	17	0.49	0.46
Hauling and miscellaneous	14	12	0.18	0.32
Total	140	103	1.79	2.81

TABLE 3. THE AVERAGE COSTS OF PRODUCING APPLES ON 129 NEWFANE ORCHARDS OVER 30 YEARS OLD, 1926*

Operation	Cost per acre		Cost per barrel	
	Dunkirk soils	Clyde soils	Dunkirk soils	Clyde soils
Growing	$71.13	$61.03	$0.91	$1.66
Picking	22.70	13.18	0.29	0.36
Packing on farm	18.02	9.06	0.23	0.25
Hauling and miscellaneous	14.97	13.02	0.19	0.35
Total	$126.82	$96.29	$1.62	$2.62

*Cost of packages not included.

The total cost of producing apples, without including any cost for package and storage, was $127 an acre on the Dunkirk soils and $96 on the Clyde, or $1.62 and $2.62 respectively per barrel (table 3). The average net price received in 1926 was $1.68 per barrel on the Dunkirk soils and $1.61 on the Clyde. The sale price does not include any item for package, storage, or commission. The profit per barrel was 3 cents on the Dunkirk soils and —$1.01 on the Clyde, if no depreciation on the orchards is allowed. When depreciation is considered as 2 per cent a year the average loss was 8 cents per barrel on the Dunkirk soils and $1.17 on the Clyde.

The importance of soil has not been fully realized by those setting apple trees. If the Clyde orchards had been valued at zero, and no charge made for interest, it would have cost $0.45 more per barrel on the average in 1926 to grow apples on the Clyde soils than on the Dunkirk soils. Only a very small part of the difference in earning power was appreciated by the growers in this community, because the Clyde orchards were valued at almost three quarters as much as the orhchards on the Dunkirk soils.

Apples require the expenditure of a large amount of time and money over a long series of years. It is a serious mistake to set or maintain orchards on land that yields as poorly as the Clyde soils in Newfane.

During the past 100 years, Western New York apple production has been concentrating in the fruit belt along Lake Ontario. In the next 100 years, apples will tend to be grown only on soils well adapted to their production.

T. E. La Mont.

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BUSINESS CONDITIONS:—1910–14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	191	173	236	281	83
Feb. 1927	149	142	132	145	171	191	174	237	258	95
Mar.	148	142	131	142	172	193	173	240	261	90
Apr.	147	147	130	143	172	200	173	235	264	93
May	147	167	132	146	172	192	174	235	273	94
June	146	172	134	149	172	182	173	235	275	93
July	147	161	137	148	167	186	171	233	280	85
Aug.	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Feb., 1928	149	148	138	142	168	193	170	235	316	95
Mar.	149	149	141	143	168	192	166	239	327	90
Apr.	151	152	145	147	170	196	166	232	340	97
May	153	164	153	157	172	186	170	235	347	101
June	151	169	150	156	170	183	168	238	334	107
July	152	164	152	156	170	189	168*	235	336	103
Aug.	153	152	145	151	171	189	170*	237	347	97
Sept.	155	152	146	154	174	196	171*	240	365	93
Oct.	152	149	144	148	171	196	170*	240	373	94*
Nov.		152*	142	146					391	100*

*Preliminary figure will be revised later.

(Footnotes continued on next page.)

BUSINESS CONDITIONS

Interest rates are distinctly higher than they were last year. The long continued period of business activity makes a steadily increasing demand for money. The phenomenal boom in the stock market has strikingly increased the demands for funds.

All of the index number given on the first page are about the same as last year with the exception of interest rates and prices of industrial stocks.

A good measure of business conditions in the United States is the earnings of corporations. The earnings of 403 corporations[1] for the first nine months of the past three years were as follows:

1926	$1,999,676,000
1927	1,959,906,000
1928	2,155,017,000

FARM PRICES

Cotton and grains are distinctly cheaper than last year. Potatoes and apples are much below prices of a year ago. Sweet potatoes have increased in price. Beef and veal have shown a decided increase in price. Hogs were somewhat higher, but are now about the same price as last year. Although the farm price of corn, oats, and wheat for the United States are only from 3 to 19 per cent higher than before the war, prices of feed made from these grains are 23 to 60 per cent above pre-war. This is due to the fact that freight rates and cost of handling are much above pre-war. In western states, farm grown grain is available without freight and handling charges. This discrepancy increases the differential between New York State and western states in the production of hogs, butter, cold storage poultry and other products that are easily shipped.

G. F. Warren and F. A. Pearson

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[1] Economic Conditions, Governmental Finance, United States Securities published by the Nationa City Bank, p. 166, November 1928.

(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities is converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February, 1927.

[4] Cost of assembling, transporting, processing and distributing food. For methods of calculation, see Farm Economics, No. 50, p. 830, Jan., 1928.

[5] The index numbers for December and June are those published by the United States Bureau of Labor Statistics. Intervening months bear the same ratio to these figures that Snyder's index for the intervening months bears to his figures for June and December. Both index numbers use 1913 as 100, but Snyder's shows that the five-year period, 1910-14, also averages 100.

[6] Data furnished by the Department of Labor of New York. Union wage rates, in 1914 are 101 when 1910-14 = 100. Weelky earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[7] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[8] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

NOVEMBER TO JANUARY TREND IN PRICE OF CABBAGE

The annual variations in the trend of the wholesale price of cabbage in New York City from November to January is shown in table 1.

TABLE 1. NOVEMBER AND JANUARY WHOLESALE PRICE OF CABBAGE NEW YORK CITY

Year	Wholesale price in New York City*		Per cent by which January price exceeds November price
	November	January	
1915	$6	$9	50
1916	32	67	109
1917	13	25	92
1918	9	13	44
1919	14	37	164
1920	7	9	29
1921	25	35	40
1922	8	15	88
1923	11	19	73
1924	9	13	44
1925	16	33	106
1926	15	15	0
1927	9	9	0
1928	21		

*Corrected for the price level by dividing the actual price by the index number of wholesale prices of all commodities 1910–14 = 100 and mulitplying by 100.

The trend in the price of cabbage from November to January depends chiefly upon the size of the crop of cabbage in New York State. The normal trend when the years are arranged from smallest to largest crop is shown in table 2.

TABLE 2. RELATION OF SIZE OF NEW YORK CABBAGE CROP TO DIFFERENCE BETWEEN NOVEMBER AND JANUARY WHOLESALE PRICES OF CABBAGE IN NEW YORK CITY

Hundreds of carloads	First group as 100	Price expected in November			Price expected in January			Amount by which January deflated price exceeds November price	
		Deflated to 1910–1914 price level = 100	At present price level of 155	First group as 100	Deflated to 1910–1914 price level = 100	At present price level of 155	First group as 100	Per ton	Per cent
350	100	$ 8	$12	100	$ 8	$12	100	$ 0	0
325	93	8	12	100	8	12	100	0	0
300	86	8	12	100	9	14	112	1	12
250	71	8	12	100	11	17	138	3	38
225	64	9	14	112	15	23	188	6	67
200	57	10	16	125	17	26	212	7	70
175	50	12	19	150	22	34	275	10	83
150	43	15	23	188	28	43	350	13	87
125	36	19	29	238	36	56	450	17	89
100	29	24	37	300	48	74	600	24	100
75	21	29	45	362	60	93	750	31	107

When the New York crop was 7500 carloads, the January price in New York was 107 per cent higher than the November price. When the crop was twice as large, the January price was 87 per cent higher than the November price. When 25,000 carloads were produced, the January price was only 38 per cent higher than the November price and when the crop was larger than this, practically no increase occurred.

E. G. MISNER

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buckwheat	Flax seed	Beans	Cotton*	Hay	Onions	Potatoes	Sweet potatoes
	bu.	bu.	bu.	bu.	bu.	bu.	bu.	lb.	ton	bu.	bu.	bu.
1910-14	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.	c.
January	58.2	38.5	87.4	61.2	70.6	162.0	2.25	12.3	11.74	103	62.7	78.5
February	59.5	39.5	89.3	63.7	71.0	170.9	2.22	12.2	12.01	113	65.7	83.4
March	60.5	40.1	89.0	62.9	70.7	173.8	2.18	12.4	12.03	119	66.9	87.5
April	62.1	40.5	88.8	64.3	72.2	173.2	2.19	12.4	12.10	127	68.1	93.1
May	64.7	41.2	89.8	64.9	73.1	176.3	2.27	12.6	12.23	130	69.6	97.8
June	67.7	41.8	90.8	64.5	75.7	175.6	2.31	12.7	12.33	126	69.4	95.9
July	69.2	41.7	87.4	61.4	79.0	167.4	2.30	12.7	12.00	122	74.3	91.8
August	70.9	40.1	85.0	57.3	77.6	170.7	2.30	12.5	11.56	112	88.7	96.7
September	73.3	39.1	87.4	59.1	74.6	170.7	2.29	12.2	11.64	100	80.4	93.3
October	70.1	39.0	87.4	60.2	72.7	167.4	2.26	12.1	11.62	96	69.2	85.0
November	63.4	38.6	88.0	60.1	71.6	162.2	2.24	12.1	11.64	96	60.0	76.3
December	58.4	38.9	86.0	60.6	71.3	154.9	2.29	12.2	12.35	101	60.7	72.2
Average	64.8	39.9	88.0	61.7	73.3	168.8	2.26	12.4	11.94	112	69.6	87.6
1914	72.7	40.3	86.2	50.7	78.3	132.2	2.25	10.6	11.32	129	69.3	86.5
1915	72.4	45.1	112.9	57.4	83.1	157.4	2.88	8.9	10.57	95	52.5	82.2
1916	75.7	43.6	117.3	66.0	89.6	198.6	4.25	13.5	10.54	135	103.8	80.1
1917	141.4	63.4	201.2	107.4	154.2	281.4	7.2[illegible]	21.5	13.42	271	189.9	121.0
1918	150.4	76.8	203.7	124.6	177.8	358.3	6.20	29.5	18.10	152	115.7	143.0
1919	156.6	69.4	214.7	105.4	156.6	402.2	4.41	29.6	20.61	205	139.4	156.9
1920	144.2	79.7	224.1	120.2	162.8	361.5	4.08	32.1	21.26	237	249.5	175.7
1921	57.8	36.1	119.0	50.8	110.2	150.8	2.84	12.3	12.96	154	103.8	118.7
1922	58.5	35.8	103.2	50.2	89.6	205.1	3.70	18.9	11.68	241	96.7	104.8
1923	80.1	41.5	98.9	56.2	95.2	235.5	4.01	26.7	12.29	186	84.1	104.4
1924	91.2	47.3	110.5	67.9	103.1	218.3	3.57	27.6	13.28	169	87.0	137.0
1925	99.9	44.5	151.0	71.0	104.2	244.4	3.94	22.1	12.54	210	113.9	171.6
1926	69.9	38.9	135.1	55.3	86.1	207.1	3.17	15.1	13.06	...	185.7	156.3
1927	78.8	44.9	120.5	67.1	88.4	195.9	3.07	15.9	12.00	...	132.3	114.0
1927												
November	73.7	45.1	111.4	66.8	79.4	184.2	2.95	20.0	10.54	...	95.4	86.5
December	75.1	48.1	113.9	71.5	81.0	185.3	3.01	18.7	10.55	...	94.1	91.9
1928												
January	75.2	49.3	115.2	73.6	82.0	188.4	3.11	18.6	10.60	...	93.6	93.4
February	79.0	51.3	116.2	75.4	85.2	189.9	3.44	17.0	10.24	...	96.2	98.6
March	86.2	54.5	121.6	79.4	90.2	194.8	3.86	17.8	10.19	...	113.2	109.6
April	91.9	56.9	129.2	81.3	94.8	198.4	4.26	18.7	10.29	...	116.8	115.1
May	102.5	62.0	144.3	84.5	102.3	210.5	4.35	20.1	10.70	...	103.3	121.4
June	102.2	61.4	132.0	81.7	109.0	209.0	4.46	19.7	11.01	...	83.6	124.7
July	102.4	56.2	118.1	77.6	108.0	195.5	4.61	21.0	10.86	...	77.9	119.5
August	98.2	38.4	95.2	58.9	98.1	181.7	4.27	18.8	10.39	..	73.1	131.0
September	95.1	36.7	94.4	54.1	92.6	181.6	3.74	17.6	10.59	. .	64.8	120.9
October	84.7	39.0	98.7	55.2	84.5	198.1	3.95	18.1	10.60	...	58.0	111.2
November	75.4	39.8	97.1	54.5	84.8	198.1	4.12	17.8	10.89	...	56.9	100.2

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buckwheat	Flaxseed	Beans	Cotton*	Hay	Onions	Potatoes	Sweet pota.
1914	112	101	98	82	107	78	100	85	95	115	100	99
1915	112	113	128	93	113	93	127	72	89	85	75	94
1916	117	109	133	107	122	118	188	109	88	121	149	91
1917	218	159	229	174	210	167	323	173	112	242	273	138
1918	232	192	231	202	243	212	274	238	152	136	166	163
1919	242	174	244	171	214	238	195	239	173	183	200	179
1920	223	200	255	195	222	214	181	259	178	212	358	201
1921	89	90	135	82	150	89	126	100	109	138	149	136
1922	90	90	117	81	122	122	164	152	98	215	139	120
1923	124	104	112	91	130	140	177	215	103	166	121	119
1924	141	119	126	110	141	129	158	216	111	151	125	156
1925	155	111	172	115	142	145	174	179	105	186	166	196
1926	108	97	154	90	117	123	140	122	109	...	267	178
1927	122	113	137	109	121	116	136	128	101	...	190	130
1927												
November	116	117	127	111	111	114	132	165	91	...	159	113
December	129	124	132	118	114	120	131	153	85	...	155	127
1928												
January	129	128	132	120	116	116	138	151	90	...	149	119
February	133	130	130	118	120	111	155	139	85	...	146	118
March	142	136	137	126	128	112	177	144	85	...	169	125
April	148	140	145	126	131	115	195	151	85	...	172	124
May	158	150	161	130	140	119	192	160	87	...	148	124
June	151	147	145	127	144	119	193	155	89	...	120	130
July	148	135	135	126	137	117	200	165	91	...	105	130
August	138	96	112	103	126	106	186	150	90	...	82	135
September	130	94	108	92	124	106	163	144	91	...	81	130
October	121	100	113	92	116	118	175	150	91	...	84	131
November	119	103	110	91	118	122	184	147	94	...	95	131

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* Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	24.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70.2	140	11.9	19,3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	25.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.84	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1927												
November	142	75	19.4	41.6	44.5	81.09	8.00	10.67	7.42	11.42	31.1	8.99
December	152	75	19.2	43.3	45.7	82.36	8.32	10.71	7.38	11.39	32.0	8.14
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62
March	177	85	20.1	23.4	43.9	87.95	8.81	11.34	7.85	12.31	35.4	7.48
April	183	85	20.8	22.8	44.0	88.55	8.92	11.18	8.11	12.73	35.6	7.75
May	191	86	21.5	24.2	42.0	89.00	9.09	11.18	8.09	13.03	37.0	8.82
June	189	86	21.5	23.9	42.2	89.90	9.10	11.56	7.84	13.18	38.7	8.70
July	156	85	21.9	25.6	42.4	90.37	9.19	11.87	7.56	12.25	37.6	9.64
August	106	84	21.6	27.4	42.8	90.43	9.51	12.32	7.53	11.88	37.0	10.01
September	97	82	22.3	31.4	44.3	92.56	9.96	13.05	7.58	11.97	36.5	11.17
October	99	80	22.0	34.9	45.2	92.86	9.63	12.62	7.50	11.57	36.0	9.55
November	108	79	21.5	39.6	45.6	93.05	9.27	11.99	7.50	11.50	35.9	8.51

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	189
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1927												
November	196	55	170	163	167	162	154	154	174	209	181	129
December	197	55	178	144	161	165	159	155	169	201	185	121
1928												
January	167	55	183	129	159	176	168	160	163	196	179	111
February	163	57	184	111	161	181	171	167	167	200	186	107
March	163	59	179	109	169	180	167	164	164	198	189	101
April	160	58	181	133	173	179	162	165	160	197	198	102
May	156	60	182	145	170	180	165	170	163	202	208	122
June	154	59	182	143	180	181	167	171	165	209	221	122
July	152	60	184	153	185	184	172	176	166	201	215	133
August	134	60	180	159	181	183	177	179	170	210	208	134
September	138	59	187	163	179	187	186	186	173	213	211	147
October	143	58	186	157	175	186	181	180	174	210	211	129
November	149	58	189	155	171	186	178	173	176	210	209	122

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-t[redacted] bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	96	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1927										
November	98	53	126	80	82	3.60	10.50	120	145	126
December	100	55	128	84	83	3.60	10.20	120	160	125
1928										
January	96	56	128	82	83	3.90	10.20	120	160	123
February	102	58	129	85	87	4.02	9.70	115	175	128
March	105	61	141	90	95	4.47	9.80	130	195	132
April	112	66	153	98	97	4.92	9.80	135	195	136
May	119	76	180	105	105	5.10	9.90	130	200	135
June	118	77	172	110	115	5.28	10.30	100	200	140
July	115	76	160	99	118	5.34	9.70	75	220	137
August	115	60	129	90	104	5.13	9.70	75	120	135
September	116	51	131	77	94	4.74	10.00	80	95	132
October	113	50	138	75	88	4.80	10.50	75	100	129
November	107	53	138	77	89	5.01	10.70	65	125	134

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-t[redacted]	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1927										
November	127	115	130	107	114	149	70	214	223	72
December	133	117	131	112	115	148	67	188	216	71
1928										
January	133	124	129	109	117	167	67	188	198	71
February	144	123	129	113	121	172	64	167	201	73
March	148	130	141	117	134	194	63	191	217	75
April	158	135	153	127	133	216	64	196	189	75
May	163	152	180	133	140	217	63	181	177	76
June	157	151	169	138	149	226	63	143	204	78
July	151	149	158	127	140	221	61	109	250	78
August	149	118	134	117	128	209	66	85	174	76
September	143	104	136	101	124	192	66	90	153	75
October	143	106	142	100	119	197	69	109	164	73
November	139	115	142	103	124	208	72	116	192	77

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.		c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	57.7	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	50.9	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	49.4	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	49.5	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	52.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	48.0	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	43.2	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1927												
November	24.2	59	65.8	50	3.07	121.00	13.00	6.40	5.50	11.40	36	10.20
December	24.5	56	53.5	52	3.04	121.00	12.80	6.80	5.50	11.90	38	9.40
1928												
January	24.8	46	49.1	51	2.95	123.00	12.90	6.80	6.00	11.60	37	9.00
February	25.5	40	38.4	50	2.85	127.00	13.20	7.10	6.10	12.50	38	8.90
March	26.8	32	33.7	50	2.53	130.00	13.20	7.00	6.30	13.00	39	8.60
April	26.3	28	32.8	50	2.30	128.00	12.60	7.50	6.30	13.00	42	8.60
May	26.6	26	33.9	49	2.21	123.00	12.20	7.50	5.90	13.20	42	9.40
June	27.1	30	35.6	48	2.11	124.00	12.90	7.60	6.00	14.40	44	9.40
July	26.3	33	38.3	49	2.33	126.00	13.20	7.60	6.70	12.90	43	9.70
August	26.3	38	42.6	49	2.68	124.00	13.70	7.80	6.10	12.50	43	10.30
September	26.6	43	50.9	51	2.83	128.00	14.50	8.20	5.90	12.40	44	11.40
October	26.3	50	58.4	51	2.94	130.00	14.40	8.30	6.00	11.60	43	11.00
November	26.3	57	63.0	52		130.00	13.80	8.00	6.10	11.40	44	10.20

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	168	152	155	127	127	101	108	140	95	116
1922	186	143	148	135	133	120	122	96	118	169	143	119
1923	174	146	144	158	150	130	128	99	131	184	195	109
1924	160	139	144	148	128	121	130	100	136	187	200	110
1925	170	154	151	155	153	137	136	108	149	202	210	154
1926	180	143	140	155	156	162	142	108	139	192	176	161
1927	173	136	126	161	166	196	146	116	140	187	162	140
1927												
November	167	169	120	156	163	215	148	117	140	189	171	137
December	178	137	109	153	159	214	146	125	127	193	181	128
1928												
January	182	121	124	150	155	229	152	129	144	181	168	121
February	182	125	113	152	157	234	158	134	145	195	173	119
March	189	114	130	161	151	232	158	135	147	201	186	111
April	178	133	146	167	158	227	163	140	138	191	200	110
May	179	137	149	169	186	221	166	133	137	202	210	124
June	178	150	145	171	197	218	164	138	142	217	220	127
July	173	150	141	181	185	223	162	139	161	196	205	130
August	166	152	138	175	177	219	162	138	142	198	215	133
September	171	159	139	170	178	224	166	145	145	201	210	144
October	170	167	129	165	164	232	163	145	148	193	205	139
November	181	163	115	163		231	157	147	155	189	210	137

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[1] Monthly average price of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, average extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net poop rice. (+8c for fat −3c for freight).

Wholesale Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mixed feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26 66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29.18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34 00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40.33	44.09
1927												
November	42.47	41.30	39.70	43.66	35.75	36.25	37.20	51.50	49.80	79.80	41.76	43.87
December	43.30	41.98	43.50	46.08	37.81	37.63	38.69	51.80	52.23	79.80	43.31	44.81
1928												
January	42.92	43.60	42.40	46.34	38.70	38.60	39.80	53.30	54.80	76.80	44.31	44.56
February	45.13	44.60	42.00	47.08	40.75	40.81	40.81	54.55	55.85	75.80	45.56	45.86
March	45.85	44.60	42.50	48.55	44.25	43.88	44.56	56.93	59.38	74.80	47.22	47.87
April	46.83	44.60	43.13	50.46	41.94	41.94	45.63	58.13	64.51	74.30	47.82	49.06
May	48.32	44.60	47.30	53.86	43.15	45.20	46.25	57.70	70.70	75.80	49.66	52.89
June	46.56	44.60	45.00	54.00	36.94	42.56	44.00	56.33	70.00	75.80	48.07	50.86
July	47.49	44.60	44.50	53.72	34.85	39.94	42.50	54.50	60.98	75.80	46.58	49.45
August	47.25	45.43	43.00	37.85	31.50	31.88	38.25	54.70	55.00	75.80	42.65	44.96
September	46.48	45.80	41.25	36.40	31.94	34.25	36.13	54.58	50.18	75.80	41.97	44.58
October	46.42	45.70	39.30	37.00	34.75	36.00	37.60	58.00	54.81	75.80	43.14	45.53
November	42.23	45.55	40.63	38.35	38.00	38.50	39.13	61.10	55.35	75.80	43.84	44.77

Index Numbers (corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1927												
November	141	145	138	140	149	144	143	151	158	149	146	138
December	150	142	155	148	153	148	146	151	166	149	149	141
1928												
January	156	144	152	149	149	148	148	154	167	148	150	143
February	165	146	152	148	155	156	151	157	174	145	154	146
March	172	152	159	153	169	168	164	171	186	143	163	153
April	169	160	164	156	163	163	172	174	198	142	167	155
May	168	163	174	165	171	177	177	174	216	145	173	166
June	163	162	164	163	159	171	173	175	213	145	169	160
July	161	169	161	160	149	154	167	169	185	145	165	154
August	150	154	145	114	127	117	145	159	161	145	142	137
September	142	150	132	113	129	126	135	154	147	143	138	135
October	151	159	133	119	147	140	144	168	171	142	149	142
November	141	160	141	123	159	153	150	179	175	141	153	140

At the present freight rates, Buffalo prices may be obtained by deducting $3.10 per ton from the Utica price; Rochester, $1.20; Little Valley, $1.10; and Syracuse, $0.50. For Watertown prices add $0.10 per ton Albany, $0.40; Ogdensburg, $0.80; Middletown and Poughkeepsie, $1.20; and Plattsburg, $1.60.

ABANDONED FARM LAND IN NEW YORK STATE

In Farm Economics No. 50, January 1928, some discussion was given of this subject. The supply of this number is exhausted. In order to meet the demand for this number, and present new data, the following discussion has been prepared.

Uses of Land in New York

In 1924, the acres of land in farms in New York as reported by the United States Census was 19,269,926.

Of this area, nearly three-quarters of a million acres were idle. Most of this idle land is included in occupied farms, in abandoned farm areas. If a farmer has 100 acres of land and has 50 acres of it idle, the census reports the entire acreage as a farm. The use made of a million acres was not reported. This includes farmsteads, roads, and the like. The public highways are nearly all laid out in farm land and are included in the farm acreage (table 1).

Nearly two-thirds of the land in New York State is in farms.

Of the farm land, nearly one-half is in harvested crops other than pasture and woods, or over one-fourth of the State is in crops (table 1.)

Pasture occupies nearly one-fourth of the area of the State, but part of this is woodland pasture.

One-eighth of the State is in farm woodland, but over half of this is pastured.

TABLE 1.—APPROXIMATE ACREAGES OF LAND IN NEW YORK STATE

	Acres
Crops harvested in 1924	8,290,335
Land on which crops failed in 1924	91,041
Crop-land idle or fallow in 1924 (Nearly all idle, very little fallow in this state)	706,287
Pasture, plowable	2,080,544
Pasture, woodland	2,025,249
Pasture, other	3,297,710
Woodland not pastured	1,780,380
Other land in farms, roads, farmsteads, etc.	998,380
Total land in farms	19,269,926
Land in farms in 1880, but now abandoned or taken for city, village or other uses	4,510,828
All other land, occupied before 1880 by cities, or mountains, etc.	6,717,806
Total land area of State	30,498,560

The area of land in farms in 1880, was 23,780,754 acres, or 4,500,000 acres more than at present. An attempt is made to estimate what has become of this land (table 2).

In 1880, there were 6,717,806 acres of land not in farms. Only rough estimates can be made of uses of this land. Judging by the amounts used for city, village, and industrial purposes at the present time, it seems probable that something like one and one-half million acres were so used in 1880. This would leave 5,200,000 acres to be accounted for in mountains and forests that were never in farms.

The reports of the State Tax Commission[1] give the assessed area of most of the incorporated cities and villages in 1925. Assuming that the places not reporting area had the same area as other places with the same population, the total area in incorporated cities and villages was 974,845 acres in 1925.

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[1] Annual Report of the State Tax Commission, 1925. Legislative Document (1926) No. 7, State of New York, p. 155-402, 1926.

Assuming that unincorporated villages have the same area for their population as incorporated villages of the same size, the area of such places would be about 947,000 acres.[2]

A little farm land is included in incorporated places, but large suburban areas around cities and villages are unincorporated.

While the number of residents outside of incorporated places and villages is relatively small, the areas used are large.

Some land is used by railroads, canals, water supplies, and the like; but the total is not great compared with the area used for residences. From the data given above and from figures showing where the farm land was abandoned, a very rough approximation of the total area taken for city, village, residential, and industrial uses can be made. It is more than two and is probably less than three million acres. Of this amount, perhaps one and one-half million acres were in farms in 1880.

TABLE 2.—APPROXIMATE USES OF LAND

	Acres
Land in farms	19,300,000
Land in mountains, forests, etc. in 1880	5,200,000
Land in cities, villages, and other residential and industrial uses in 1880, one to two million acres	1,500,000
Farm land taken for city, village, residential, summer homes, and industrial uses since 1880, one to two million acres	1,500,000
Other land abandoned since 1880, idle or in woods	3,000,000
Total	30,500,000

Some of the abandoned land in the Adirondack and Catskill Mountains and other park areas has been purchased by the State.

The area of abandoned land not used for cities and not already purchased in the park areas would appear to be over two million acres. Some of this is in small areas, that might be reforested by school districts and private individuals.

In the abandoned farm areas there are some farms not yet abandoned. These are not included in the abandoned acreage. Probably before all of the present abandoned land is put into use additional poor land will be abandoned. How much land will need attention from the state to bring it into use is not determined. The Reforestation Commission is now studying this question and will estimate the area available for purchase.

From the studies here reported, it seems probable that of the area available, about 60 per cent will need to be planted to trees. Trees will also continue to be needed for planting the poorer land which will remain in farms.

Rate of Abandonment

Abandonment is taking place at an increasing rate. In the thirty years, from 1880 to 1910, less than two million acres disappeared from farms. In the five years from 1920 to 1925, over a million acres disappeared (table 3).

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[2] The population of unincorporated villages is taken from Rand McNally, Indexed Pocket Map.
In 60 cities in 1925, the assessed area was 540,270 acres. In 529 incorporated villages, the assessed area was 434,575 acres. In 2461 unincorporated villages, the area would be about 947,000 acres, if the area were the same as for incorporated villages of the same size.

TABLE 3.—LAND IN FARMS IN NEW YORK STATE, AS REPORTED BY THE CENSUS

Year	Number of farms	Acres	Abandoned acres	Rate of abandonment per year
1850	170,621	19,119,084		
1860	196,990	20,974,958		
1870	216,253	22,190,810		
1880	241,058	23,780,754		
1890	226,223	21,961,562		
1900	226,720	22,648,109		
1910	215,597	22,030,367	1,750,387	
1920	193,195	20,632,803	1,397,564	140,000
1925	188,754	19,269,926	1,362,877	270,000
Total abandoned			4,510,828	
Per cent abandoned			19	

More Production from Fewer Acres

In forty-five years, the land in farms declined 19 per cent, but the acres of crops declined only 9 per cent. Yields per acre increased 17 per cent, so that in spite of the declining acreage and the millions of acres of abandoned land, the total crop production of the State increased 7 per cent. The highest production ever attained in the State was during the war period. Abandonment was rapid even in this period. Low prices have resulted in some decline in production since the war (table 4). The increased production is greater than the figures indicate because there are changes in the character of the crops. Vegetables, which have been substituted for grain, produce more food per acre. Corn is now put in the silo so that an acre produces about twice as much feed as formerly.

TABLE 4.—ACRES OF CROPS OTHER THAN FRUIT, YIELDS PER ACRE, AND TOTAL CROP PRODUCTION IN NEW YORK STATE*

Year	Acres of crops	Yield per acre 1875-1883 = 100	Total production 1875-1883 = 100
1854	7,562,324		
1864	7,594,360		
1874	8,691,357	104	104
1879	8,698,831	100	100
1889	8,889,349	96	98
1899	9,016,235	99	103
1909	8,365,335	106	102
1919	8,304,817	116	111
1924	7,925,000	117	107

*Crop yields are index numbers of yields of corn, oats, wheat, barley, rye, buckwheat, hay and potatoes. In each case, the average is for 9 years in which the census year is the middle year, except for 1924, which is for 7 years. FARM ECONOMICS, No. 50, p. 829, January, 1928.

The acres of some minor crops for 1924 are not yet published. Their estimated area of 106,000 acres is included.

In the forty-five years, the total milk production of the State increased 21 per cent (table 5).

TABLE 5.—MILK PRODUCTION IN NEW YORK STATE

Year	Number of dairy cows	Milk sold or manufactured pounds	Milk sold or manufactured per cow, pounds
1845	999,490		
1850	931,324		
1855	1,068,427	2,827,076,000	2,646
1860	1,123,634		
1865	1,147,251	3,091,396,000	2,695
1870	1,350,661	4,074,061,000	3,016
1875	1,339,816	4,043,131,000	3,018
1880	1,437,855	4,876,590,000	3,392
1890	1,440,230		
1900	1,423,152	5,766,744,000	4,052
1910	1,305,278	6,162,022,000	4,721
1920	1,419,877	5,847,775,000	4,118
1925	1,324,572	5,895,526,000	4,451

*Pounds of butter made on farms was multiplied by 25, cheese by 10, and cream sold by 8.

In the last four census periods, heifers 2 years old or older that have not freshened are included as cows. The number here given is the estimated number of animals 27 months old or older to correspond with the earlier census reports.

Census figures are all somewhat too low but are probably comparable for different years. Farm Management Studies indicate that sales per cow in New York average 5,095 pounds, and total production averages 5,500 pounds. Farms producing Grade A and Grade B milk averaged 6,200 pounds per cow. Production in Denmark averages 6,300. Farm Economics, pp. 292 and 293.

Future Production

Pearl[1] estimates that the population of the United States will increase about 65 per cent in the next 100 years. If this increase occurs, New York farmers can abandon more land and yet contribute their share of 65 per cent increase in food production.

In most parts of the State, tile drainage, lime and fertilizers have been used enough to show what they will do, but thus far have been used on only a very small percentage of the acreage.

The nation-wide agricultural depression is so interfering with the provision for future production that another period of "high-cost-of-living" seems inevitable. Such a period will probably begin in the next decade or two. A shortage of cattle is already beginning. Such a period is likely to mislead the public as to the necessity for the use of inferior lands. When a period of high food costs occurs, it will be due primarily to the cessation of improvements of good land. The remedy should not be reoccupation of inferior lands, but larger yields on the lands already in use. This was demonstrated by the continued abandonment of land from 1900 to 1920, altho there was a very rapid increase in the total food production in the State.

It is easier to increase food production on good land than on poor land. By either procedure, a number of years will be required, but the time will be shorter and the returns greater if all the effort is spent on good land. Doubtless there will always be cycles of too rapid and too slow development. In agriculture, these cycles are very long.

A shortage of milk has occurred this fall. This is due to the killing of cows and failure to raise heifer calves when milk prices were so unfavorable a few years ago.

It would be very easy to increase milk production on many of the present dairy farms. In good areas formerly devoted to timothy hay, a great increase in dairying will occur whenever prices are favorable. Another means of increasing milk production is to have more of the cows freshen in the fall. There is too much milk in the summer and too little in the fall. Whenever prices for milk are at all favorable, farmers quickly plan for its production, but it takes time to raise a cow.

The areas of abandoned land are of very little value for milk production because the little milk they do produce is mostly produced in the summer when there is already too much. If the few cows in such areas were removed to good land, they would produce more milk, and farmers would have more of them freshen in the fall when milk is needed.

New York Agriculture Not Decadent

In spite of all the abandoned land, agriculture in New York is not decadent. The Agriculture must be judged by the land used, not by the idle land. If the State had planted trees on this land, its wealth would be increasing, its whole aspect improved, and the character of its agriculture would be more evident. The State is so important commercially and industrially that its high rank in agriculture is not generally appreciated.

In 1925, New York ranked eighth among the States in total value of farm crops, and sixth in the value of animal products, even though it ranked only twenty-ninth in total area. New York tied with Ohio for seventh place in value of crops and animal products combined.

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[1] Pearl R. The Biology of Population Growth, p. 14, 1925.

In 1920, New York ranked twentieth in the population living on farms, having one-fortieth of the total farm population of the country, but ranked second in the value of dairy products and produced one-eighth of the total value of the Nation's dairy products. While some milk produced in other States and in Canada enters New York, an even larger amount of New York milk and cream is shipped to New Jersey, New England and other States. New York produces enough milk and cream to supply the State, and in addition about one-third of the milk handled in commercial plants is used in the production of butter, cheese, evaporated and condensed milk, and other manufactured milk products.

According to the 1920 census, the State ranked eighth in the value of eggs and produced about one-twentieth of the United States total value.

No other State has such a diversified list of important crop and animal products. While sheep, hog, wheat, and oat production are not major interests in this State, considerable amounts of them are produced. The State has never ranked high in corn production, but it is nevertheless second in the number of farmers growing corn for the silo, and had one-ninth of all the silos in the United States.

In 1919, New York ranked second in the value of apples, being exceeded only by the State of Washington. New York produced nearly one-ninth of the value of this important crop.

The census of 1920 reports that New York ranked first in the production of potatoes, and had 10.9 per cent of the total value of the United States crop. It took first place also in the value of hay, cabbage, sweet corn, raspberries, parsley, salsify, teasles, willows, carrots, and currants.

It was second in the value of dairy products, apples, buckwheat, grapes, maple syrup and sugar, lettuce, nursery stock, dry onions, cauliflower, celery, greenhouse flowers, parsnips, and pears; and it ranked second in the total value of all vegetables and produced one-ninth of the total value of the national output of vegetables.

It ranked third in the value of dry beans, cucumbers, honey and wax, kale, green peas, radishes, squash, and turnips. It was fourth in the value of hops, horse-radish, and rhubarb. It stood fifth in farm-forest products, cherries, greenhouse vegetables, pumpkins, and tomatoes.

The State ranks second in the number of trucks on farms, thirteenth in the number of automobiles, and fifteenth in the number of tractors. Niagara County, New York, has more tractors per square mile than any other county in the United States. The State ranks fourth in the value of farm machinery and farm buildings.

In 1920, New York ranked fifth in the amount of farm products sold cooperatively.

Location of the Abandoned Farm Land

The acres of land that have disappeared from farms in different parts of the State are shown in figure 1. Practically all of the area that has disappeared in the western district and the metropolitan district has been taken for residential or industrial uses. A considerable amount of the area in each of the other districts has been so taken.

Location of the areas for which studies are here reported are shown in figure 2.

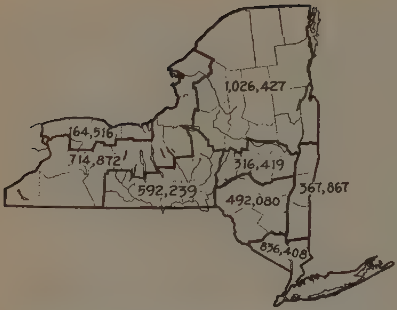

FIGURE 1. LOCATION OF LAND THAT DISAPPEARED FROM FARMS FROM 1880 to 1925

The metropolitan and northwestern area account for one million acres, most of which has been taken for residential or idustrial purposes.

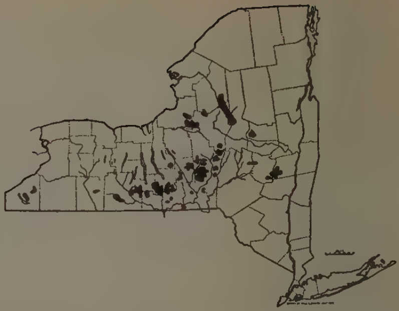

FIGURE 2. AREAS IN WHICH STUDIES WERE MADE OF ABANDONED FARM LAND

Most of the idle farm land is in southern New York and in districts around the Adirondack and Catskill Mountains.

TABLE 6.—ACRES OF LAND THAT DISAPPEARED FROM FARMS, 1880-1925

County	Acres of land disappeared from farms	Per cent of 1880 area of farm land
Western		
Niagara	19,641	6
Orleans	29,869	12
Genesee	40,341	13
Monroe	44,881	12
Wayne	29,784	8
Total	164,516	10
West-Central		
Chautauqua	79,255	12
Cattaraugus	14,775	2
Allegany	64,065	10
Erie	91,427	15
Wyoming	65,170	16
Livingston	46,198	12
Ontario	53,787	14
Yates	14,683	7
Seneca	24,536	12
Cayuga	54,861	13
Onondaga	83,874	17
Oswego	53,519	11
Jefferson	68,722	12
Total	714,872	11
South-Central		
Steuben	136,055	16
Schuyler	22,883	12
Chemung	37,975	15
Tompkins	59,374	20
Tioga	56,895	18
Cortland	51,201	16
Broome	56,390	13
Chenango	125,426	21
Madison	46,040	12
Total	592,239	16
Catskill		
Delaware	38,686	5
Greene	91,895	26
Sullivan	173,359	37
Ulster	188,140	35
Total	492,080	23
Adirondack		
St. Lawrence	50,475	5
Franklin	6,156	2
Clinton	4,437	1
Lewis	21,521	5
Oneida	139,651	20
Herkimer	129,463	28
Hamilton	66,302	67
Fulton	108,428	38
Essex	135,342	32
Warren	154,345	46
Saratoga	143,248	31
Washington	67,059	14
Total	1,026,427	18
Hudson River		
Rensselaer	108,613	26
Columbia	93,653	23
Dutchess	165,601	34
Total	367,867	28
Mohawk Valley		
Montgomery	68,493	24
Schenectady	30,981	25
Otsego	93,622	15
Schoharie	63,211	16
Albany	60,112	20
Total	316,419	18
Metropolitan		
Orange	189,037	38
Putnam	85,462	62
Rockland	39,955	50
Westchester Bronx Kings New York Queens Richmond	324,819	72
Nassau		
Suffolk	197,135	64
Total	836,408	57
New York State	4,510,828	19

Why Were the Lands Abandoned?

Soon after the Revolutionary War, New York State was settled with great rapidity. A multitude of people were anxious to obtain land. They settled practically all of the land regardless of its quality. Some income was often obtained from the sale of timber, while the land was being cleared. Abandonment in most of the poor areas began almost as soon as settlement was completed.

Crop yields in these areas never were good. Census yields of 1845 show the yields to be far below the average for the State. The barns are further evidence of the low crop yields. Most of the barns in the abandoned areas are small compared with those on the fertile valley farms. The barns and census data indicate that a team of horses and a few cattle were the typical amounts of livestock kept by many of the early settlers.

The soils in such areas are generally very deficient in lime and phosphorus. The burning of the forest provided a little lime for the surface soil, and the decaying tree roots left the soil in a friable condition so that it was somewhat easier to produce crops when the land was first settled.

Clover does not thrive. Buckwheat, oats, and a very inferior grade of hay are the common crops in the abandoned farm areas. Even on good land, these crops are usually not very profitable. A few potatoes are grown for sale, but the costs of production are high, yields low, and potatoes from such areas bring lower prices than do potatoes from the profitable commercial sections.

Hay yields per acre in the areas shown in table 12 are only 56 per cent of the State average. The hay is of a very inferior quality. In some areas, it is largely poverty grass and golden rod. In other areas it is mostly sweet vernal grass, poverty grass, golden rod, and daisies. Only rarely is there much timothy and clover. Timothy and clover do so poorly that little is sown. In the year when records were taken, nearly a third of the farmers bought no grass seed. Most of the others bought very little. In areas with 123,534 acres of cleared land the total amount spent for grass seed was only $8829. Most of the grass seed purchased was in the better areas.

Since good farms in good regions can be rented for half of the crop when the landlord maintains the buildings and pays the taxes, a farm in a poor area that yields little over half as much hay of poor quality and on which the owner must pay taxes and building maintenance is a detriment to one who operates it.. The farmer would be much better off as a tenant on good land.

Fortunately much of the land not adapted to farming is excellently adapted to forest purposes. Most of the best white pine land of the State is inferior for farming. A large part of it is included in the abandoned farm areas.

When the land was first settled, each farm was largely self-sufficient and all kinds of crops were grown. Since agriculture has become commercial, the production of each kind of crop has increased in regions best adapted to that crop. For example, the original settlers planted apple orchards of about the same size in every part of the State. Later, the number of trees in the Hudson Valley and along Lake Ontario increased rapidly. In most of the remaining portions of the State, the number of trees has steadily declined.

Wherever settlers located, they brought dairy cattle with them in about equal numbers. The number of dairy cows has steadily increased where grass grows well and where there is a good milk market. In the abandoned areas, grass does not grow well and the number of cattle has decreased. The total number of cattle for the State has remained about constant.

The abandonment of this land is primarily due to the natural characteristics of the soil. Changed economic conditions have contributed to abandonment. When the land was settled, commercial fertilizers and tile drains were unknown, and lime was not available for use. Much of the best level land required drainage before it could be used, but with drainage, it became very superior land. It would be very easy to increase crop yields on the good lands by 25, or even 50 per cent, by the use of tile-drains, fertilizers, and lime. Such an increase can be obtained with much less effort than is required to produce the same product in the abandoned farm areas.

Another reason for the shift of production from poor to good land is that the poor land is usually not well adapted to the use of grain-binders, potato-planters and diggers, tractors, and the like. Much of the land is of such a nature that it would be much more expensive to lay tile-drains than it is on good land. And on much of it, the drains would not work well even if laid. Every step in progress makes it relatively more advantageous to obtain the food supply by the more intensive use of good land rather than by the use of land such as is being abandoned. The high ratio of wages to prices of commodities accelerates this movement.

How the Process of Abandonment Occurs

An agricultural region may be settled very quickly, but if a mistake is made, abandonment is an exceedingly slow and painful process. In many regions in New York, abandonment has been going on for from fifty to seventy-five years and is yet far from complete. In the poorest part of Pharsalia township, abandonment had been going on for sixty-five years, but 28 per cent of the houses were still occupied. Usually the first step in abandonment of land is for the hired men, young men and women, and some of the older persons to leave the farms. Tenants can move so that very few farms in the poor areas are rented.

An area is not abandoned all at once. Each owner who desires to leave the region tries to sell his place. Frequently the place is listed with a real estate firm. Such firms often advertise in western farm papers and in the foreign language press in coal-mining regions and elsewhere. Sales are often made. The new owner usually brings in his life-time savings. He fixes up the buildings and tries to farm. From one to ten years are necessary to convince the new buyer that he has lost his time and money. After being satisfied that a mistake was made, the problem of how to get away is a serious one. The disillusioned owner usually tries to sell the place and may remain several years in the hope of making a sale and so getting back part of his money. It is generally not possible to rent such a place. To leave it idle makes it much more difficult to sell. If he succeeds in selling, the process is repeated.

Permanent abandonment usually does not occur so long as the house is habitable, because it is often possible by waiting a few years to sell to some unsophisticated person. When outside money is brought in to fix the buildings, it delays permanent abandonment. For example, two such areas were settled by Finnish farmers. In one of these, every Finn has gone. In another, the buildings have been improved, mostly with money brought from the outside, but abandonment has begun. Of 74 such farms, 15 were vacant. The building improvements made with outside money may delay final abandonment for many years.

Farmers who leave the region without selling their land and other non-residents retain possession year after year in the hope of making a sale. The taxes in any one year in the areas studied ranged from 22 to 62 cents per acre. When they come due, there is a tendency to pay them again in the hope of making a sale at 10 to 20 times the tax payment.

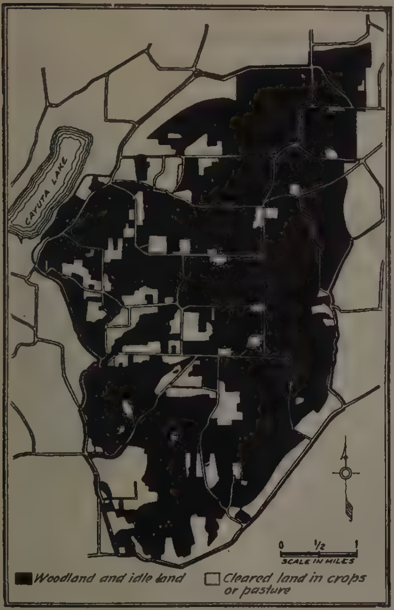

FIGURE 3. CLEARED LAND IN CROPS OR PASTURE, CONNECTICUT HILL, AREA TOMPKINS COUNTY*
Most of the area is either idle or in woodland.

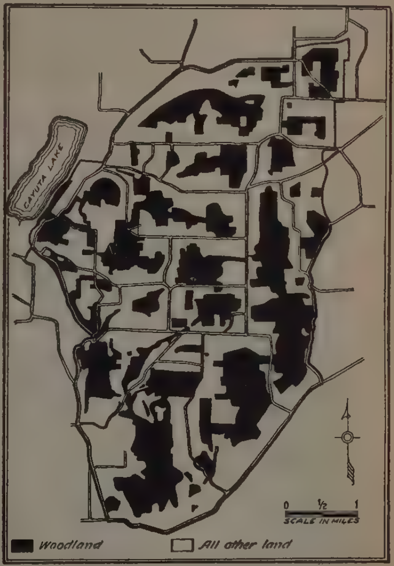

FIGURE 4. LAND IN WOODS AND ALL OTHER LAND, CONNECTICUT HILL AREA, TOMPKINS COUNTY*
One third of the land is in woods. In addition there is considerable tree growth along the field lines.

In general, the idle land is interspersed with occupied places. The Connecticut Hill Area in Tompkins County is shown in figure 3. The land that is used for crops or pasture is scattered through the area. Much of this land is little used. If a mowing machine was run over the field it is included as used, although little hay might have been obtained. If stock was pastured on the field, it is also considered as used even though very little pasture might have been obtained.

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*Data from Connecticut Hill Game Refuge Map. Bump, N. Gardiner, A Game Refuge Survey of the Connecticut Hill Area. Unpublished manuscript, Cornell University, 1928.

Would Other Farmers Make a Success in These Poor Areas?

The original settlers were of the same type as those who settled good land. In fact, what is now the best land was often the poorest land because it was in the level valley areas that could not be farmed without drainage, whereas the hills often had the best trees and needed clearing only. The descendants of the original settlers on poor land have less education than those in the good areas. This is because they must stop school at an early age in order to earn their living. The people in the poor areas are usually very conservative. This often leads visitors to believe they are not good farmers. They have learned that a dollar spent on a poor farm does not often return. If they ever do get a dollar, they keep it. They let the farm buildings decay. The western farmers, foreigners, and persons from cities fail more promptly.

Would Another Type of Farming Pay?

Every type of farming imaginable has been tried and is being tried today.

Studies of Abandoned Farm Areas

In 1906, the Department of Farm Management[1] began some studies of the abandoned farm areas. Some of these areas were again studied in

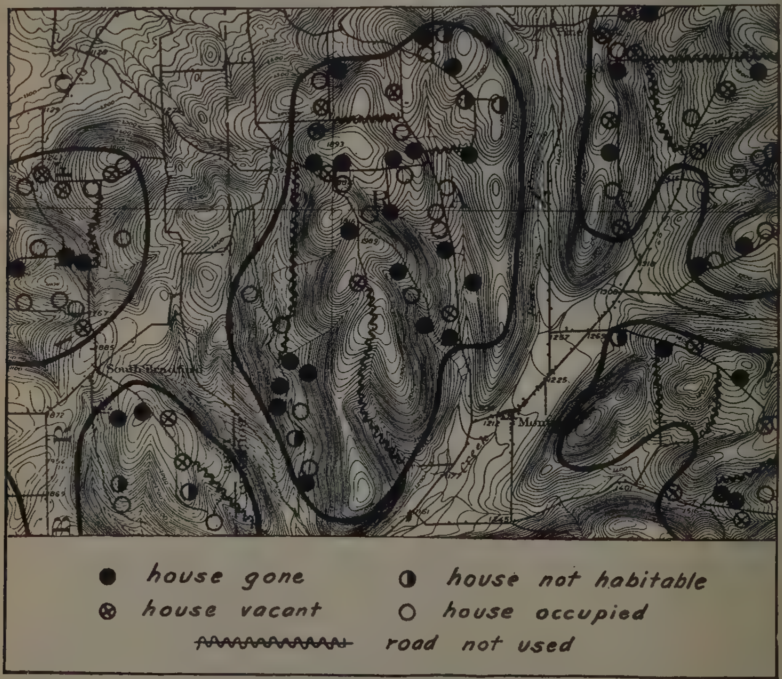

FIGURE 5. TYPICAL ABANDONED FARM AREAS, THE CENTRAL AREA CONTAINS ABOUT 6000 ACRES.

Approximate boundaries of the abandoned areas are indicated. These areas are interspersed with valleys.

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[1] Warren, G. F. and Livermore, K. C., An Agricultural Survey, Cornell University Agricultural Experiment Station Bulletin 295, pp. 463-473, 556-557, 1911.

1917 and 1927 so that the progress of abandonment was obtained. In 1924, the project was definitely taken up and has since been continued.[2]

Business records have been obtained for the occupied and for idle land in 15 areas, including 195,032 acres. Such studies include acreage, soils, yields, animals, receipts, expenses, profits, taxes, woodlots, pastures, condition and value of buildings, ages and experience of operators, and the like. For idle farms, ownership, value, taxes, year abandoned, condition of land and buildings and much other information, was obtained.

In the 15 areas, there were 685 occupied farms, 764 vacant farms, and 329 parcels of land.

Of the vacant farms, 47 per cent had been vacant ten years or more.

Of the total area, 35 per cent was in woods; and 6 per cent in crops other than hay.

Of the cleared land, 40 per cent was idle. A mowing machine is frequently run over a field to cut a few weeds and grass to make some inferior hay. If this was done, the land was considered in use, even tho it was very unprofitable.

The areas in Chautauqua and Cayuga counties are in better condition than most of the other areas, but there is considerable forest land in these areas.

Records of the use of houses and of land adjoining the road have been made for 27 areas, including 392,400 acres. This was done by the crop-meter method. Every passable road in the area was traveled. The latter type of study is useful for determining which areas should be more fully studied. In order to check the accuracy of the crop-meter method, records were also taken of the roadsides in most of the areas where de-

TALBE 7.—AREAS FOR WHICH FINANCIAL OR OTHER RECORDS WERE OBTAINED FOR ALL LAND

Area	County	Number of occupied farms	Occupied farms		Number of vacant farms	Parcels of land	Per cent of vacant farms vacant 10 years or more	Per cent of area in woods	Per cent of area in crops other than hay	Per cent of cleared land idle	Total acres
			Operated	Not operated							
Berne	Albany	41	32	9	23	8	57	17	7	41	8,299
Summer Hill	Cayuga	50	47	3	44	20	28	14	12	36	11,168
Ellery	Chautauqua	77	77		46*			22	10	14	14,803
Pharsalia†	Chenango	98	98		50	16		25	3	15	25,445
Smyrna	Chenango	36			39	7	21	20	3	46	9,556
Virgil	Cortland	37			54	62	50	41	4	36	11,174
Ohio**	Herkimer	57	23	34	67±	61	62	60	1	69	24,517
Parish	Oswego	31	25	6	40	33	24	55	2	52	10,597
Decatur	Otsego	20	18	2	53	4	48	24	5	35	8,826
Sugar Hill	Schuyler	20			25	6	33	17	9	45	5,008
South Bradford	Steuben	43			67	20	57	34	7	59	12,476
Swale	Steuben	34	33	1	49	26	45	40	7	33	11,782
Bald Mountain	Tompkins	16	14	2	31	7	36	34	7	58	5,702
Bull Hill	Tompkins	94	88	6	98	45	56	42	8	44	25,365
Connecticut Hill	Tompkins	31	20	11	78	14	56	32	6	69	10,314
Total		685			764	329					195,032
Average							47	35	6	40	

*Includes parcels of land.

**Land north of Adirondack State Park line, state land, land owned by Consolidated Water Company of Utica and 10 farms selling fluid milk, located in southwestern part of township are not included.

†Entire township.

±27 of these are summer homes which are sometimes used part of the year.

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[2] Allen, Wm., The Utilization of marginal and submarginal Hill Farm Land. 1925. In process of publication.

Vaughan, L. M., Abandoned farm areas in southern New York 1928. Manuscript ready for publication. Most of the data concerning individual areas are taken from this work.

tailed records of every piece of property were obtained. The land along the roadside includes much more crops and much less pasture, woods, and idle land than the average for the area. By considering the land along the roads only, the land in crops other than hay was on the average overestimated by 36 per cent. The percentage of the cleared land idle was underestimated.

In areas where the use of land along the road was studied, 47 per cent of the cleared land along the road was idle and 6 per cent was in crops other than hay. Of the original houses, 28 per cent were gone, 36 per cent vacant, and 36 per cent occupied.

TABLE 8.—AREAS IN WHICH THE USE OF LAND ALONG THE ROADSIDE AND USE AND CONDITION OF BUILDINGS WERE OBTAINED

Area	County	Number of occupied houses	Number of vacant houses	Number of houses gone	Per cent cleared land idle	Per cent cleared land in crops other than hay	Approximate acreage
Crystal Lake	Albany	91	46	43			40,000
West Almond	Allegany	17	15	5	56	16	9,200
Castle Creek	Broome	15	16	8	34	7	3,500
Charlotte Center	Chautauqua	22	22	17	43	9	7,000
Bobell Hill	Chenango	10	11	15	46	3	4,200
Cheningo Lake	Chenango	14	9	6	32	7	4,800
Pharsalia region	Chenango	166	202	93	31	4	57,200
Skinner Hill	Chenango	21	19	9	19	8	7,100
Cheningo	Cortland	42	62	31	42	7	17,700
Sprite Creek	Fulton	36	27	32	66	3	15,000
Gorton Lake	Madison	34	40	37	49	4	11,800
Lebanon	Madison	7	15	12	45	10	4,600
Muller Hill	Madison	48	42	23	35	8	12,200
Quaker Hill	Madison	24	35	22	44	7	11,300
Florence	Oneida	12	34	31	84	0.3	17,300
Hinckley Reservoir	Oneida	106	116	131	75	2	63,000
Tassel Hill	Oneida	5	11	3	56	3	5,800
Panther Lake	Oswego	95	90	93	60	9	41,400
Broome Center	Schoharie	15	18	14			7,500
Monterey	Schuyler	16	23	19	50	8	6,800
Pine Valley	Schuyler	31	23	30	42	12	6,100
South Cameron	Steuben	45	34	19	11	24	8,600
Prospect Hill	Tioga	21	22	16	52	7	4,700
South Appalachin	Tioga	14	10	11	33	16	4,300
Strait's Corners	Tioga	16	18	9	43	10	3,900
Eastman Hill	Tompkins	18	12	7	48	6	4,900
South Danby	Tompkins	50	32	31	43	13	12,500
Total		991	1004	767			392,400
Average					47	6	

Only the buildings along the passable roads were recorded. The proportion of houses vacant and gone would be greater if buildings along roads no longer used were included.

Population

For 15 areas reported in table 9, there were practically no men except the farm operators. On 510 farms, there were 558 men, and 49 boys 20 years old or older. The boys usually left the farm before they were 20 years of age. In one or two of the areas where abandonment has not yet gone so far, there were a number of boys.

On 46 per cent of the places there were no children at home.

Most of these areas were settled by immigrants from New England. Depopulation began about 75 years ago. A generation ago, the farmers were practically all descendants of the original settlers. In some of the areas the occupied places are now in the hands of newcomers. On the average, 28 per cent of the occupants had resided in the area less than 5 years. This varied from 7 to 81 per cent in different areas.

When the first study of Bald Mountain area was made 21 years ago, practically all the occupants were descendants of the original settlers who came from New England. The sons were gone. Today, there is only one family which descended from the original settlers. In areas that are

TABLE 9.—POPULATION ON OCCUPIED PLACES

Area	County	Number of occupied farms	Number of acres in area	Population of area	Number of men residing in area	Average age of farm owners and tenants	Number of boys 20 years old or older residing in area	Percent of occupied farms on which there were no children	Percent of families residing in area less than 5 years	Percent of the owners of vacant farms now farming elsewhere
Berne	Albany	41	8299	129	43	50	1	51	43	57
Summer Hill	Cayuga	50	11168	182	57	53	4	54	32	50
Ellery	Chautauqua	77	14803	318		48	24			21
Pharsalia*	Chenango	98	25445	377		50	19			70
Smyrna	Chenango	36	9556	116	39	49	3	56	35	61
Virgil	Cortland	37	11174	143	40	50	2	35	32	61
Ohio†	Herkimer	57	24517	181	62	52	6	46	23	25
Parish	Oswego	31	10597	106	33	54	0	52	7	36
Decatur	Otsego	20	8826	83	21	48	5	40	11	73
Sugar Hill	Schuyler	20	5008	56	23	53	2	70	15	47
South Bradford	Steuben	43	12476	148	44	53	5	48	37	62
Swale	Steuben	34	11782	115	39	50	5	41	27	54
Bald Mountain	Tompkins	16	5702	50	18	47	1	44	81	33
Bull Hill	Tompkins	94	25365	381	106	49	12	30	17	43
Connecticut Hill	Tompkins	31	10314	114	33	50	3	55	32	36
Total		685	195032	2499			92			
Average						50		46	28	59

*Entire township.
†Same as table 7.

more remote from cities or which are a little better for farming, the stage of abandonment now is about the same as it was 20 years ago in the poorer regions. Many of the farms are still in the hands of the descendants of the original settlers. The sons are gone. When the present owners die, the farms will be sold to the endless succession of inexperienced buyers who purchase in optimism and after being disillusioned retain possession in the hope of a sale. If the land were taken for forestry purposes, some of the occupied farms as well as the vacant farms would be purchased.

The Pharsalia area is an example of an area some distance from large cities where most of the occupants are descendants of the original settlers. The population of the township is less than half of what it was 90 years ago. Abandonment began soon after settlement was completed, as soon as the lumber was cut. The population of the entire township is given in table 10. The abandonment of the higher areas has gone further than these figures indicate.

TABLE 10.—POPULATION OF PHARSALIA TOWNSHIP, CHENANGO COUNTY

Year	Population
1797	8
1810	482
1814	550
1820	873
1825	895
1830	1011
1835	1170
1840	1213
1845	1209
1850	1185
1855	1152
1860	1261
1865	1112
1875	1085
1892	972
1905	690
1915	699
1923	553
1925	506

Most of the settlers came from Connecticut. All of the farmers in 1924 were native Americans, and 80 per cent of them were born in the county.

In 1845, there were 235 farmers in the town; in 1924 there were 97. They had lived in the township an average of 35 years. They averaged 48 years of age. Most of the young men have left.

The original farms were usually about 100 acres.

Uses of Land

In the different areas studied, the percentage of the land in crops other than hay varied from 1 to 12 and averaged 6. The area in hay is not very significant because any field over which a mowing machine was run was called hay land, even though it had not been plowed for years and produced only a little weedy hay. The area of the land in hay averaged 14 per cent of the total land; pasture, 18 per cent; woods, 35 per cent; and idle land 25 per cent (table 11).

TABLE 11.—USES OF LAND

Area	County	Farmsteads	Hay	Other crops	Pasture	Idle	Woods	Total
		acres	acres	acres	acres	acres	acres	acres
Berne	Albany	146	1307	565	2075	2800	1406	8299
Summer Hill	Cayuga	568	2336	1287	2119	3274	1584	11168
Ellery	Chautauqua	287	3424	1562	4629	1626	3275	14803
Pharsalia*	Chenango	254	6652	812	8530	2833	6364	25445
Smyrna	Chenango	327	1475	291	2172	3357	1934	9556
Virgil	Cortland	229	1592	477	1991	2314	4571	11174
Ohio±	Herkimer	196	1079	147	1716	6645	14734	24517
Parish	Oswego	119	996	170	1082	2443	5787	10597
Decatur	Otsego	132	1818	434	2057	2298	2087	8826
Sugar Hill	Schuyler	185	564	460	1154	1810	835	5008
South Bradford	Steuben	302	1024	850	1377	4666	4257	12476
Swale	Steuben	197	2043	798	1761	2236	4747	11782
Bald Mountain	Tompkins	172	617	393	491	2088	1941	5702
Bull Hill	Tompkins	559	2333	2013	3481	6227	10752	25365
Connecticut Hill	Tompkins	292	799	580	728	4656	3259	10314
Total		3965	28059	10839	35363	49273	67533	195032
Per cent of total		2	14	6	18	25	35	100

*Entire township.
±Same as table 7.

On the occupied farms, average acreages were: potatoes 1 acre, buckwheat 3 acres, other grain 6 acres, and hay 29 acres.

The hay yields averaged 0.7 tons per acre or 56 per cent of the average for the State for the same years. All crops combined yielded 60 per cent of the State average yield per acre (table 12).

TABLE 12.—ACREAGE AND YIELD OF CROPS ON OCCUPIED FARMS

Area	County	Number of farms	Acres per occupied farm				Yield of hay per acre (tons)	Yields per acre State average for year is 100	
			Potatoes	Buckwheat	Other grain±	Hay		Hay	All crops†
Berne	Albany	41	0.5	5.4	5.9	24	0.70	47	52
Summer Hill	Cayuga	50	1.8	5.0	9.0	35	1.0	76	78
Ellery	Chautauqua	77	1.1	2.8	7.9	31	0.87	64	70
Pharsalia*	Chenango	98	0.8	1.0	2.5	53	0.58	43	46
Smyrna	Chenango	36	0.7	2.2	3.2	27	0.86	65	68
Virgil	Cortland	37	1.7	2.1	4.0	26	0.83	63	66
Ohio**	Herkimer	57	0.4	0.2	0.6	16	0.79	53	54
Parish	Oswego	31	0.7	0.5	1.0	23	0.73	49	50
Decatur	Otsego	20	2.1	4.5	5.5	45	0.82	55	57
Sugar Hill	Schuyler	20	1.4	6.4	7.4	22	0.7	53	62
South Bradford	Steuben	43	1.1	3.0	6.6	17	0.65	49	52
Swale	Steuben	34	1.1	5.9	10.8	40	0.67	51	54
Bald Mountain	Tompkins	16	2.0	6.9	7.0	21	0.7	51	58
Bull Hill	Tompkins	94	1.4	4.6	8.5	20	0.91	69	74
Connecticut Hill	Tompkins	31	1.2	6.0	4.2	18	0.7	53	58
Total		685							
Average			1.1	3.3	5.6	29	0.71	56	60

±Oats; oats and barley; oats, peas and barley; barley; rye and wheat.
†Includes potatoes, buckwheat, oats and hay. Few other crops are grown.
*Entire township.
**Same as table 7.

Buildings

Some houses have gone, with no trace remaining. Data were obtained for 4500 houses of which 1178 were gone, 1602 vacant, and 1720 occupied. On many of the farms, either the house or the barn or both are gone or decayed and falling so that they could not be used. On 50 per cent of the farms, either the house or barn or both had fallen or were not usable. On 14 per cent of the farmsteads, both houses and barns were classed as fair-to-good. Many of these would not be so classed in a good farming region, as the buildings in poor areas were rarely comparable with the buildings in the fertile farming areas.

Value of Property on Occupied Farms

Farmers' estimates of the value of the property on 685 occupied farms in different areas averaged $4125. The areas of high property values are the ones in which there is the least amount of idle land.

TABLE 13.—NUMBER AND CONDITION OF FARM BUILDINGS

Area	County	Number occupied houses	Number vacant houses	Number houses gone	Per cent of farmsteads with fair to good house and barn	Per cent of farmsteads with house or barn or both gone or not usable
Berne	Albany	39	21	13	23	42
Crystal Lake	Albany	91	46	43	8	40
West Almond	Allegany	17	15	5	19	30
Castle Creek	Broome	15	16	8	10	51
Summer Hill	Cayuga	57	53	44	29	51
Charlotte Centre	Chautauqua	22	22	17	10	54
Ellery	Chautauqua	91	40	19		
Chenango Lake	Chenango	14	9	6	14	38
Bobell Hill	Chenango	10	11	15	14	56
Pharsalia°	Chenango	103	74			
Pharsalia region	Chenango	166	202	93	15	42
Smyrna	Chenango	30	37	19	14	36
Skinner Hill	Chenango	21	19	9	10	31
Cheningo	Cortland	42	62	31	9	46
Virgil	Cortland	32	41	26	4	56
Sprite Creek	Fulton	36	27	32	2	59
Ohio*	Herkimer	70	32**	28	46	38
Gorton Lake	Madison	34	40	37	7	53
Lebanon	Madison	7	15	12	6	65
Muller Hill	Madison	48	42	23	12	51
Quaker Hill	Madison	24	35	22	14	51
Florence	Oneida	12	34	31	10	69
Hinckley Reservoir	Oneida	106	116	131	7	64
Tassel Hill	Oneida	5	11	3	5	68
Panther Lake	Oswego	95	90	93	8	60
Parish	Oswego	32	38	22	14	47
Decatur	Otsego	23	45	15	5	40
Broome Center	Schoharie	15	18	14	6	47
Monterey	Schuyler	16	23	19	7	57
Pine Valley	Schuyler	31	23	30	8	52
Sugar Hill	Schuyler	18	21	11	14	50
South Bradford	Steuben	42	37	45	13	55
South Cameron	Steuben	45	34	19	26	33
Swale	Steuben	34	28	23	29	47
Prospect Hill	Tioga	21	22	16	10	46
South Apalachin	Tioga	14	10	11	3	71
Straits Corners	Tioga	16	18	9	14	51
Bald Mountain	Tompkins	25	24	21	20	49
Bull Hill	Tompkins	101	61	80	31	48
Connecticut Hill	Tompkins	32	50	45	13	61
Eastman Hill	Tompkins	18	12	7	8	43
South Danby	Tompkins	50	32	31	15	49
Total		1720	1602	1178		
Average					14	50

°Entire township.
*Entire township, south of Adirondack State Park Line.
**In addition to these 32 vacant houses, there were 20 which were used during the summer only.

TABLE 14. FARMERS ESTIMATED VALUE OF PROPERTY PER FARM ON OCCUPIED FARMS

Area	County	Number of farms	Acres Per farm	Value of land and buildings per farm	Value of livestock per farm	Value of machinery per farm	Total
Berne	Albany	41	138	$1694	$ 809	$335	$2838
Summer Hill	Cayuga	50	126	3547	1140	462	5149
Ellery	Chautauqua	77	123	4440	1101	984	6525
Pharsalia*	Chenango	98	181	2838	1218	542	4598
Smyrna	Chenango	36	130	1924	1189	388	3501
Virgil	Cortland	37	112	2084	875	459	3418
Ohio ±	Herkimer	57	139	1633	410	144	2187
Parish	Oswego	31	102	2010	691	235	2936
Decatur	Otsego	20	169	2865	1558	651	5074
Sugar Hill	Schuyler	20	125	1930	855	455	3240
South Bradford	Steuben	43	126	2188	593	301	3082
Swale	Steuben	34	156	3050	850	794	4694
Bald Mountain	Tompkins	16	143	2344	791	473	3608
Bull Hill	Tompkins	94	132	2790	1057	636	4483
Connecticut Hill	Tompkins	31	101	2156	436	414	3006
Total		685					
Average			133	$2670	$938	$517	$4125

*Entire township.
±Same as table 7.

If the farms were taken for forestry, the livestock and machinery could be removed. The value of these varied from $554 to $2209 per farm. Some of the buildings include lumber that is worth saving. If the lands were purchased, and the owner were given permission to remove this, it would in some cases be of value to him. If the owner of occupied places were given a year or more in which to remove such property as they desired, the lands could be purchased at a lower price, than for immediate possession.

Income

Most of the farm land in the abandoned areas yields very little income. The operated farms sell some products. In most of the areas, a few farms are included that might be left as farms, for a time.

The incomes above farm expenses other than interest and wages for the operator in the various areas varied from $86 to $517 per farm. This includes returns from outside work as well as returns from farming. In one area, the receipts less business expenses amounted to $86 per farm. This was $119 less than 5 per cent for the capital invested, and therefore left less than nothing for the farmer's labor. The amount left to pay for the time of the operator varied from minus $119 to $292 and averaged $98 for the different areas.

TABLE 15. PROFITS PER FARM ON OPERATED FARMS IN 11 AREAS.

Area	County	Number of farms	Total receipts	Total expenses	Farm income	Interest on capital	Labor income
Berne	Albany	26	$ 927	$ 666	$261	$178	$ 83
Summer Hill	Cayuga	42	1632	1244	388	264	124
Ellery	Chautauqua	76	1523	1226	297	310	−13
Pharsalia ±	Chenango	98	1518	1116	402	230	172
Ohio*	Herkimer	22	875	690	185	174	11
Parish	Oswego	25	1062	923	139	167	−28
Decatur	Otsego	16	2197	1868	329	285	44
Swale	Steuben	27	1221	891	330	251	79
Bald Mountain	Tompkins	9	1037	951	86	205	−119
Bull Hill	Tompkins						
Foreign-born operator		51	1975	1541	434	252	182
American-born operator		29	1417	900	517	225	292
Connecticut Hill	Tompkins	18	1083	837	246	199	47
Total		439					
Average			$1461	$1122	$339	$241	$98

±Entire township.
*Does not include 10 farms shipping fluid milk, which are located in the southwestern part of the township.

In one area that is somewhat better than the average of the areas studied, there is a large settlement of foreigners. Fifty-one farms operated by foreigners made an average labor income of $182. Twenty-nine farms operated by American-born farmers made an average labor income of $292.

In such an area, the men who spend the most time at other work than farming usually make the most. The Americans have learned this, and by farming less actively, and by working at other occupations, increase their incomes. The foreigners are farming more actively than the Americans. By investing money earned before coming to the region and by having the family work for low returns, the foreign farmers give the impression of some prosperity. There are fewer abandoned farms in this community than there were twenty-five years ago. As the newcomers learn the difference between good farm land and poor farm land, they leave the area. Many of the young men are going and 20 per cent of the farms owned by foreigners are already left vacant, the operators having gone elsewhere to earn a living. Such a settlement delays the process of abandonment for a generation or more.

Value of Products Sold or Used

The amounts and values of products sold or used by the farm family in two typical areas are given in tables 16 and 17. In Pharsalia $3.86 worth of products were sold or used by the farmer's family per acre of cleared land. The amount of purchased feed and other materials brought into the area amounted to $1.55 per acre, leaving $2.31 to pay interest, taxes, 1.5 days' labor, and miscellaneous other costs. This amount of time and quantity of imported materials would yield much more if used on better land.

TABLE 16. VALUE OF PRODUCTS USED BY THE FARMER'S FAMILY OR SOLD, PER ACRE OF CLEARED LAND, PHARSALIA, CHENANGO COUNTY, 1924

Sold or used	Amount sold or used	Value per acre cleared land
Hay	5 pounds	$0.03
Potatoes	0.4 bushels	0.24
Buckwheat		0.01
Milk	62. quarts	2.57
Eggs	1.6 dozen	0.39
Livestock (less purchases)		0.62
Total		$3.86
Purchased feed and other materials brought into the area		1.55
Net amount to pay interest and taxes and pay for 1.5 days of labor		$2.31

TABLE 17. VALUE OF PRODUCTS USED BY THE FARMER'S FAMILY OR SOLD PER ACRE OF CLEARED LAND, CONNECTICUT HILL, TOMPKINS COUNTY, 1926

Sold or used	Amount sold or used	Value
Potatoes	0.31 bushels	$0.41
Buckwheat	0.15 bushels	0.12
Beans	0.02 bushels	0.07
Other crops		0.11
Milk	3 quarts	0.15
Butter	1.1 pound	0.51
Cream		0.10
Eggs	1.1 dozen	0.37
Wool		0.02
Livestock (less purchases)		0.54
Total		$2.40
Purchased feed, fertilizer, and other materials brought into the area		.70
Net amount to pay interest and taxes and pay for 1.1 days labor		$1.70

For another area, an average of 1.1 days of labor were expended per acre of cleared land. The average value of farm products sold or consumed by the farm family was $1.70 per acre after paying for feed and other materials brought into the area, or $1.70 worth of products had to pay interest, taxes, miscellaneous expenses and for 1.1 days labor.

Taxes

The town, county, and state taxes in the different areas varied from 17 to 46 cents per acre and averaged 25 cents (table 18). School taxes varied from 5 to 16 cents per acre.

Total taxes varied from 22 to 62 cents per acre with an average of 34 cents.

Since the average assessed value was $8.72, the taxes were 3.9 per cent of the assessment.

Except around the Adirondack and Catskill mountains, the abandoned farm areas are usually hill areas of from 500 to 10,000 acres, interspersed with valley land that is suitable for farming. This distribution has some advantages from the forestry standpoint. Fire risk is greatly reduced. Help will be available for planting, fighting fires and other operations. But the mixture of forestry and agriculture brings with it a tax problem.

Any sound taxation policy must consider the other land as well as the forest land.

TABLE 18. TAXES

Area	County	Assesed value per acre	Town, county and State taxes	School taxes	Total taxes	Per cent taxes are of the assessed value
Berne	Albany	$8.71	$0.18	$0.06	$0.24	2.8
Summer Hill	Cayuga	19.04	0.46	0.16	0.62	3.3
Pharsalia±	Chenango		0.30	0.12	0.42	
Smyrna	Chenango	9.21	0.34	0.10	0.44	4.8
Virgil	Cortland	9.30	0.32	0.08	0.40	4.3
Ohio°	Herkimer	4.78	0.17	0.05*	0.22	4.4
Parish	Oswego	7.11	0.26	0.10	0.36	5.1
Decatur	Otsego	11.74	0.29	0.09	0.38	3.2
Sugar Hill	Schuyler	5.90	0.23	0.05	0.28	4.7
South Bradford	Steuben	6.90	0.24	0.07	0.31	4.5
Swale	Steuben	9.30	0.20	0.05	0.25	2.7
Bald Mountain	Tompkins	10.64	0.25	0.12	0.37	3.5
Bull Hill	Tompkins	9.00	0.24	0.11	0.35	3.9
Connecticut Hill	Tompkins	8.85	0.27	0.10	0.37	4.2
Average		$ 8.72	$0.25	$0.09	$0.34	3.9

±Entire township.
°Entire township south of Adirondack State Park Line.
*Average of 6 districts only.

Whatever agency takes over such land, provision must be made for the maintenance of such local institutions as are still required. Some roads may be closed. In many cases an entire school district may be completely depopulated. But many of the roads would still be needed, and local government and education must continue. If the poorest land is freed from taxation, and the entire burden thrown on the next poorest land, it amounts to confiscation of the remaining land that might be used for farming.

Value of Land Per Acre

The amount of land at each estimated value for the Pharsalia area is given in table 19. Some of the land in this area was valued as low as $2.00 per acre and some as high as $36.00. The average for all land in the area was $10.40. If all the land with a value of $20.00 or less were purchased

TABLE 19. ESTIMATED VALUES OF LAND PER ACRE IN FOREST AREA, OF PHARSALIA TOWNSHIP, CHENANGO COUNTY

Value per acre	Number of acres	Average value per acre including all cheaper land	Total acres with average value in preceding column
$2	561	$2.	561
3	545	2.5	1106
4	353	2.8	1459
5	1047	3.7	2506
6	1453	4.5	3959
7	183	4.6	4142
8	1417	5.4	5559
9	1229	6.1	6788
10	2685	7.1	9473
11	610	7.4	10083
12	337	7.5	10420
13	830	7.9	11250
14	854	8.3	12104
15	1331	9	13435
16	265	9.2	13700
17	175	9.3	13875
18	157	9.4	14032
19	467	9.7	14499
20	448	10.	14947
33	30	10.1	14977
36	220	10.4	15197

at the prices indicated, a total of 14,948 acres would be included at an average value of $10.00 per acre. Similar estimates for other areas are shown in table 20.

The State has bought considerable land in the Pharsalia area at prices below the estimated values. Sales in abandoned farm areas are difficult to make for cash. Prices are largely based on sales with very small cash payments and the probability of having the farm revert to the seller Apparently, when cash is offered, considerably less will be accepted; also when the State buys, there are no commissions.

Estimates of the value per acre of the land were obtained from the owners where possible and from others when this was not possible. The estimated average value of the 176,537 acres included in table 20 was $14.87 per acre.

For 146,535 acres on which assessed values were obtained, the farms were estimated to be worth $13.62 per acre, and were assessed for $8.72.

The 195,032 acres listed in table 7 include 1778 farms and parcels of land. The average area per holding is, therefore, 110 acres.

TABLE 20. LAND VALUES

Area	County	Average value per acre	Total acres	Acres with average value of $10 per acre	Per cent
Berne	Albany	$10.70	8299	8000	96
Summer Hill	Cayuga	23.40	11168	3500	31
Ellery	Chautauqua	31.90	14804	300	2
Pharsalia*	Chenango	10.40	15198	14948	98
Smyrna	Chenango	11.30	9556	9000	94
Virgil	Cortland	13.10	11174	9000	81
Ohio†	Herkimer	10.30	16268		
Parish	Oswego	11.10	10597	10000	94
Decatur	Otsego	12.90	8826	6500	74
Sugar Hill	Schuyler	12.20	5008	4000	80
South Bradford	Steuben	12.30	12476	12000	96
Swale	Steuben	14.90	11782	8000	68
Bald Mountain	Tompkins	12.60	5702	4500	79
Bull Hill	Tompkins	15.20	25365	18000	71
Connecticut Hill	Tompkins	14.10	10314	8000	78
Total			176537		
Average		$14.87			72

*Forest area only.
†Does not include miscelleaneous parcels and woodlots.

Amount of Land to be Reforested

In the areas studied, 35 per cent of the land is covered with woods (table 7). Some of the roads should be left open. Brush lines have already grown up along many of the field lines. Around each wood-lot there is a strip too shaded to be planted. The total area to be planted would probably average less than 60 per cent of the area purchased, but would be much more or less than this in individual areas.

What Would Become of the Present Settlers if the Land Were Taken for Forests?

In most of the forest areas, there are valleys, and sometimes other areas, that will continue to be farmed so that agriculture and forestry will be interspersed. The persons now living in areas that are taken for forests will find occupations similar to those followed by persons who have previously left the region. The occupations are decidedly variable. The most common one is farming. Of the owners of vacant farms, 59 per cent are farming elsewhere (table 9).

How May the Land Be Brought Into Use?

The vast areas of idle land in the State are not only non-productive but they have a very depressing influence on agriculture and on the State as a whole. The traveler sees so much idle land that he does not notice the excellent farms. The farmers of the State who are on good farms are depressed by seeing the innumerable failures in their occupation. These lands are constantly wasting the lives and money of new buyers who should be spending their time and money on better land.

Fields that have been idle for twenty years are often bare except around the edges, where there are seed trees. After a field has been idle for a time, a neighbor may run a mowing machine over it in order to get the little hay that grows, and so cut off any trees that did start, or an inexperienced person may plow it in an attempt to raise a crop. For example, one field in the Bald Mountain area which had been idle for about 10 years had a considerable beginning of natural reforestation to white pine. An inexperienced person who bought the farm plowed these under with a tractor in the hope of raising buckwheat. He and the pine trees are both gone. The idle land remains.

The owner cannot reforest the land, because with so little property he cannot make long-time investments.

If the land were relieved from taxation, some wealthy individuals would be glad to buy it in large tracts for private recreation and hunting. A better policy would seem to be to hold it for lumber and public recreation. Fortunately there are areas that are readily accessible from all parts of the State.

The township in which much of this land is situated is a poor township, and the county is frequently a poor county unless it happens to include a large city. Therefore, the local governments are not in a position to do much of the reforesting.

Cities, villages, counties, towns and school districts should be encouraged to plant trees. But the area is so large that there is no probability of getting a large percentage of it planted by these agencies. Apparently the State must do much of the work if it is to be done.

The State has three uses for such land, lumber, recreation and hunting. The State obtains revenue from hunting licenses and automobile taxes. The individual receives revenue from lumber only. The State is, therefore, in a better position to reforest than is an individual.

A state investment in such lands is very different from an investment in buildings. It is an investment in a growing crop, which is appreciating instead of depreciating. Judging by the experience of this State, as well as by the experience of other countries, the appreciation will be large. There will probably never be a time when the State can purchase these lands more advantageously than at present, and no time when such purchase would be more beneficial to agriculture. The prompt purchase of large areas in many localities seems desirable.

Prices of Lumber

Prices of lumber as published by the United States Bureau of Labor Statistics were used for calculating index numbers given in table 21. Most of the prices are for New York City. Various kinds of lumber are included.

Lumber is now worth 207 per cent more than it was from 1890-1894, but other farm products are only 76 per cent higher than they were in that period. From present indications the ratio will be much further in favor of lumber fifty years from today. There will, of course, be periods of high and low prices, but over a series of years, lumber may be expected to increase in price relative to other farm products. When estimating the profits from tree planting, it is lumber prices fifty years ahead rather than present prices that should be considered. When lumber trebles in price and farm products have risen only 76 per cent, lumber is able to compete with farming on land where it formerly could not do so.

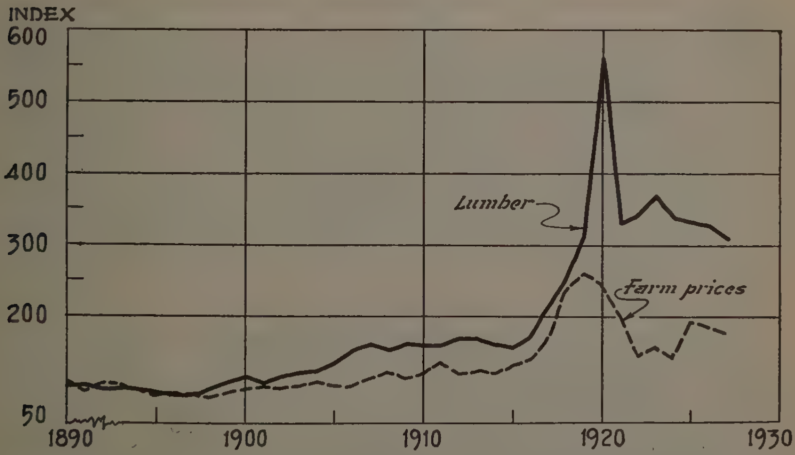

FIGURE 6. PRICES OF LUMBER AND PRICES OF FARM PRODUCTS IN NEW YORK, 1890-1927

Lumber is three times as high as it was from 1890 to 1894. Farm products have increased only 76 per cent.

TABLE 21. INDEX NUMBERS OF PRICES PAID PRODUCERS OF FARM PRODUCTS IN NEW YORK STATE AND WHOLESALE PRICES OF LUMBER AND AND ALL COMMODITIES*

1890–94 = 100

Year	All Commodities	Farm Prices in New York	Wholesale prices of lumber
1890	106	106	104
1891	105	94	102
1892	98	104	98
1893	101	103	99
1894	90	93	97
1895	92	87	92
1896	88	90	91
1897	88	88	90
1898	92	84	96
1899	98	90	105
1900	106	95	112
1901	105	99	105
1902	111	97	114
1903	112	101	119
1904	112	105	122
1905	114	102	133
1906	116	102	151
1907	123	113	159
1908	119	121	154
1909	128	113	163
1910	133	119	160
1911	123	136	160
1912	130	119	169
1913	132	123	169
1914	129	120	162
1915	133	131	156
1916	167	139	169
1917	233	171	212
1918	256	236	251
1919	271	260	320
1920	297	243	564
1921	194	199	330
1922	196	143	342
1923	203	157	372
1924	196	141	335
1925	209	193	333
1926	199	185	326
1927	193	176	307

*The index number for wholesale prices of all commodities are those reported by the Bureau of Labor Statistics.

The index numbers of prices paid to producers of farm products are based on the December 1 prices of crops and January 1 prices of livestock. The data are from Prices of Farm Products Received by Producers. North Atlantic States, United States Department of Agriculture, Statistical Bulletin 14, pp. 90-91, January 1927. The prices of milk at Utica, New York were taken from, Warren G. F. and Pearson, F. A. Farm Economics, No. 35, p. 490-491, June 1926. The relative importance of the commodities was based on, Warren, G. F., Prices of Farm Products in New York, Cornell University Agricultural Experiment Station Bulletin 416, p. 52, January 1923. The weights were as follows: beef cattle, 7.8; hogs, 5.6; sheep, 2.2; milk, 55.7; potatoes, 10.6; hay, 10.6; wheat, 4.4; buckwheat, 1.7; rye, 0.7; corn, 0.3; oats, 0.3; and barley, 0.1.

The index numbers of wholesale prices of lumber were based on: hemlock, No. 1 northern; maple; white oak, plain; white oak, quartered; yellow pine siding; white pine No. 2 barn boards; poplar; and spruce. White pine prices were for Buffalo. All other prices were for New York City except that for a portion of the time Boston quotations were used for spruce and Norfolk quotations for yellow pine. All prices were taken from, Wholesale Prices, 1890-1926, United States Department of Labor, Bureau of Labor Statistics, Bulletin 440, pp. 154-162, 222-223, July 1927. The commodities were weighted in the following proportions: hemlock, 5; maple, 4; white oak, plain, 15; white oak, quartered, 8; yellow pine, 53; white pine, 8; poplar, 3; and spruce, 4.

Freight Paid on Lumber Consumed in New York State

Freight paid for the primary distribution of lumber consumed in New York State is shown in table 22. The total payment amounted to nearly $38,000,000. Some of the lumber is reshipped so that the total freight would be more than this amount. Only about one million dollars of the freight was paid on lumber originating in the state.

If a million or more of the idle acres in New York State were growing timber, ultimately, it would result in a saving of freight payments. The state has a distinct advantage over more distant states in producing lumber for use here. The freight on New York lumber averaged $5.47 per thousand board feet, or less than one half the freight on lumber from other states.

TABLE 22. ESTIMATED FREIGHT PAYMENT FOR PRIMARY DISTRIBUTION OF LUMBER CONSUMED IN NEW YORK STATE, 1924*

	Total freight paid	Average freight paid per thousand board feet
Lumber originating within the state	$1,178,666	$5.47
Lumber originating in other states	31,310,652	13.59
Lumber from foreign sources	5,077,376	10.75
Total	$37,566,694	$12.56

*United States Biennial Census of Manufacturers, 1925, p. 548, 1928.

G. F. WARREN, and L. M. VAUGHN

A COMPARISON OF THE COST OF SESSIONS OF COUNTY BOARDS OF SUPERVISORS IN NEW YORK AND IN IOWA

Most of the services of county boards of supervisors are rendered in sessions where the members, sitting as a group, decide matters of general county business. The cost of these sessions is an important item of county expenditure. In the belief that costs vary widely with differences in the number of supervisors, a comparison of the cost of sessions was instituted between a number of counties in New York and an equal number in Iowa.

County boards of supervisors in New York are large. They are composed of one member from each town and one from each ward of a city. In Iowa, county boards of supervisors are usually composed of three members, though some counties have boards of five members, and two counties have boards of seven members each.

The costs per session of 26 boards of county supervisors in New York and in Iowa, are compared in table 1. For this comparison boards of three supervisors in Iowa were chosen.

With an increase in the number of supervisors, the cost per session in New York counties increased rapidly. A county with 50 members on its board paid more than eight times as much for a single session as a county with six members. This is due principally to increases in compensation per session, which are about in direct proportion to increases in the number of supervisors. Mileage paid for attendance increased as the number of supervisors increased, but at an irregular rate. This irregularity is due to variations in the number of members who lived in the county-seat and received no mileage for attendance.

In Iowa, not only was the cost per session and its constituent elements, compensation and mileage, much lower than in New York, but also, counties with large tax levies obtained a session at as low cost as counties with small tax levies. In New York, a comparison of county tax levies with the number of supervisors shows that this economy is not realized, because increases in the number of supervisors correspond with increases in the levy of county taxes. A comparison of the last two columns in table 1 indicates the economy of the Iowa method. There are of course, other considerations. The quality of service rendered by large and by small boards is not compared here. Costs only are compared.

TABLE 1. COST PER SESSION OF BOARDS OF SUPERVISORS IN NEW YORK AND IN IOWA*

Number of supervisors New York counties	County taxes levied, Iowa counties	Compensation		Mileage		Total cost per session	
		New York	Iowa	New York	Iowa	New York	Iowa
6	$230,000	$27.27	$14.77	6.06	$3.66	$33.33	$18.43
8	232,000	48.00	14.90	3.15	7.48	51.15	22.38
9	240,000	38.00	14.66	8.33	2.13	46.33	16.79
10	241,000	56.53	15.00	4.62	11.30	61.15	26.30
10	252,000	60.00	14.89	6.77	2.49	66.77	17.38
14	255,000	80.64	14.91	3.84	6.78	84.48	21.69
15	258,000	88.64	15.00	2.06	4.24	90.70	19.24
16	259,000	97.94	15.00	13.73	7.92	111.67	22.92
16	260,000	91.89	14.85	19.80	8.19	111.69	23.04
16	263,000	96.00	14.57	15.78	76.20	111.78	90.77
16	268,000	94.55	14.82	10.73	2.45	105.28	17.27
17	277,000	85.42	15.00	40.19	8.51	125.61	23.51
17	278,000	98.82	14.95	24.82	4.86	123.64	19.81
18	290,000	146.67	14.91	43.44	8.38	190.11	23.29
19	290,000	163.84	15.00	8.36	5.05	172.20	20.05
19	300,000	107.38	14.91	5.87	2.39	113.25	17.30
19	304,000	112.76	14.76	14.18	3.86	126.94	18.62
20	318,000	123.80	15.00	7.90	10.86	131.90	25.86
21	335,000	118.60	14.77	150.30	10.76	269.13	25.53
23	342,000	138.26	14.83	3.79	4.10	142.05	18.93
23	347,000	133.15	14.78	63.32	4.37	196.47	19.15
26	375,000	155.47	15.00	38.47	3.48	193.94	18.48
29	379,000	174.00	14.80	37.90	3.39	211.90	18.19
37	432,000	216.00	14.90		4.56		19.46
39	491,000	171.39	14.76	5.02	5.60	176.41	20.36
50	582,000	237.00	14.88	51.25	9.91	288.25	24.79

Data for this table were assembled from official reports and from questionnaires answered by clerks of supervisors.

Supervisors in New York counties are paid fees.

It was impossible to classify the Iowa counties according to number of supervisors, for each of them has three members only. County tax levy was chosen as a good substitute for this classification. A study had shown that in New York, Illinois and Michigan, counties arranged in order of tax levy were very nearly in order of number of supervisors.

In the New York counties, boards of supervisors average 19.7 members and serve 41,692 persons, who pay county taxes aggregating $323,187. In the Iowa counties, a board of three supervisors serves an average population of 29,297, whose county taxes aggregate $311,462. Thus, in so far as the size of the population and the levy of county taxes indicate responsibility, the situation of boards of county supervisors in New York is not far different from that of boards in Iowa.

TABLE 2. AVERAGE COST PER SESSION IN 26 COUNTIES IN NEW YORK AND IN IOWA

	New York	Iowa
Number of supervisors	19.7	3
Population	41,692	29,297
County taxes levied	$323,187	$311,462
Cost per session		
Compensation	$113.92	$14.87
Mileage	$23.59	$8.57
Total	$113.45*	$23.44
Cost of all sessions		
Compensation	$3554.00	$688.75
Mileage	615.72	351.74
Total	4182.29*	1040.49
Number of sessions	32.5	46.3

*Compensation and mileage do not add to this figure, due to the fact that for one county no figure for mileage was obtained.

Yet the cost and number of the sessions differ widely in the two states. In New York, the average cost per session is $133.45, compared with $23.44 in Iowa. In New York, the average cost of all sessions is $4182.29, and in Iowa, $1040.49. In New York, the average number of sessions is 32.5, in Iowa, 46.3.

The advantages of the small board of supervisors in Iowa with respect to cost and number of sessions do not necessarily indicate that small boards are to be preferred, but they suggest the advisability of an inquiry into the relative merits of large and small boards of supervisors.

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FARM ECONOMICS

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BUSINESS CONDITIONS:—1910–14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	190	173	236	281	83
1928	151	153	145	149	170	190	171	237	349	98
June, 1927	146	172	134	149	172	182	173	235	275	93
July	147	161	137	148	167	186	171	233	280	85
Aug.	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Jan., 1928	149	148	141	143	168	193	172	236	318	89
Feb.	149	148	138	142	168	193	170	235	316	95
Mar.	149	149	141	143	168	192	169	239	327	90
Apr.	151	152	145	147	170	196	169	232	340	97
May	153	164	153	157	172	186	171	235	347	101
June	151	169	150	156	170	183	170	238	334	107
July	152	164	152	156	170	189	172	235	336	103
Aug.	153	152	145	151	171	189	171	237	347	97
Sept	155	152	146	154	174	196	173	240	365	93
Oct.	152	149	144	148	171	196	172	240	373	94
Nov	150	153	142	146	168	191	172	239	391	100
Dec.	150	147	141	143	166	198	171	243	393	104
Jan., 1929.		145*	139	141					409	120*

*Preliminary figure will be revised later.

(Footnotes continued on next page.)

BUSINESS CONDITIONS

The most striking feature of the year 1928 was the phenomenal boom in the prices of stocks. The first part of the rise was a reaction from depressed prices. High earnings later justified a further rise in prices. After the rapid rise had continued for a time, much of the buying was not due to anticipated earnings, but to an anticipated advance in prices. When a market reaches this situation, it rises because it rises, and goes on indefinitely until a reaction comes. If one had invested $123 in January, 1922 in the 70 industrial stocks, the prices of which are used in the New York Herald-Tribune index, he could have sold these stocks for $409, in January, 1929. In addition to dividends received, he would have made 233 per cent by the increase in value during the seven years, or would have made about 33 per cent per year on the original investment in addition to dividends. This explains why the buyers of stocks have come to be more interested in the rise in price than in the dividends. An investment in stocks now pays lower returns than an investment in bonds.

A considerable part of the boom in the stock market and the building boom has been due to cheap food. Since it has not been necessary to send the money to farms, it was available for expenditures in the cities. Part of the money was saved, and savings bank deposits are at record heights. Part of it has been invested in stocks and bonds and increased the demand for these. Part of it has expressed itself in a demand for better homes. This demand came when there had been relatively little building of houses. Over-building and an over-boom in the stock market were inevitable. Ultimately a period of reaction will occur, followed as it always is by a period of recovery.

In the similar period following the Civil War, there was a time when city houses were as difficult to sell as farms are now. After the Civil War, there was a short period of reaction followed by a building boom and a rise in the stock market which resulted in a decided reaction 9 years after deflation began. Thus far, the changes have been very similar, but more violent. This is the ninth year since deflation began, and while it is not certain that a reaction will come this year, caution in business affairs, particularly in debts, seems advisable. Data for the Civil War do not seem to indicate that the reaction in cities was injurious to agriculture,

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(Footnotes for first page)

[1] United States Bureau of Labor Statistics index of wholesale prices of all commodities is converted to the five-year base, 1910-14 = 100 by multiplying the new index of 550 commodities on the 1926 base by 1.55.

[2] Calculated from prices paid to producers as published by the United States Department of Agriculture. For methods of calculation see Farm Economics No. 9, p. 75, November 20, 1923. Corresponding months 1910-14 = 100.

[3] Prices paid to farmers for food materials and prices of the same food materials at retail. Farm prices as reported by the United States Department of Agriculture and retail prices as reported by the United States Bureau of Labor Statistics. For methods of calculation see Farm Economics No. 42, p. 617, February, 1927.

[4] Cost of assembling, transporting, processing and distributing food. For methods of calculation, see Farm Economics, No. 50, p. 830, January, 1928.

[5] The index numbers for December and June are those published by the United States Bureau of Labor Statistics. Intervening months bear the same ratio to these figures that Snyder's index for the intervening months bears to his figures for June and December. Both index numbers use 1913 as 100, but Snyder's shows that the five-year period, 1910-14, also averages 100.

[6] Data furnished by the Department of Labor of New York. Union wage rates, in 1914 are 101 when 1910-14 = 100. Weekly earnings for 1914 are therefore considered as 101, to make the index numbers comparable with other index numbers on the 1910-14 base.

[7] Twenty stocks before 1922, thereafter 70 industrial stocks from the New York *Herald-Tribune*. The data as published, are converted to the 1910-14 base by multiplying by 2.05.

[8] Data for prime commercial paper furnished by the Harvard Economic Service, converted to the five-year base, corresponding months, 1910-14 = 100.

except for the man who had debts that he could not meet. It is true that any injury to agriculture ultimately injures the cities, but the first effect of this injury may be beneficial to the cities as the cheap food has been in recent years. It is also true that any injury to cities will ultimately hurt the farmers, but it may not hurt them at once. Types of farming which produce luxuries are more immediately affected by city conditions than other types of farming.

The Agricultural Situation

Prices for livestock and livestock products, except eggs, now average higher than they did a year ago. Cotton, wheat, potatoes, and some other products are worth less than they were a year ago, so that the index of all farm products is below last year.

In New York State, the lower prices for eggs, and extremely low prices for potatoes have made the index of all farm products sold by New York farmers less than last year.

Prices paid to farmers for food products in December averaged 43 per cent above pre-war. This same food retailed at 66 per cent above pre-war retail prices, because the cost of distribution was nearly double pre-war (figure 1).

The poultry feed ration averages about the same as a year ago. The dairy ration is higher than last year, primarily because of high prices of protein feeds.

Prices for eggs in New York City, quoted on page 1031, have been changed this month so that they represent the highest grade of eggs quoted.

Conditions in most parts of New England, New Jersey, and South Eastern New York have been improved in the last two years. Foreclosures are less numerous than they were. Conditions are very bad in the potato sections of Maine and in the general farming sections of Western New York.

(Continued on page 1034)

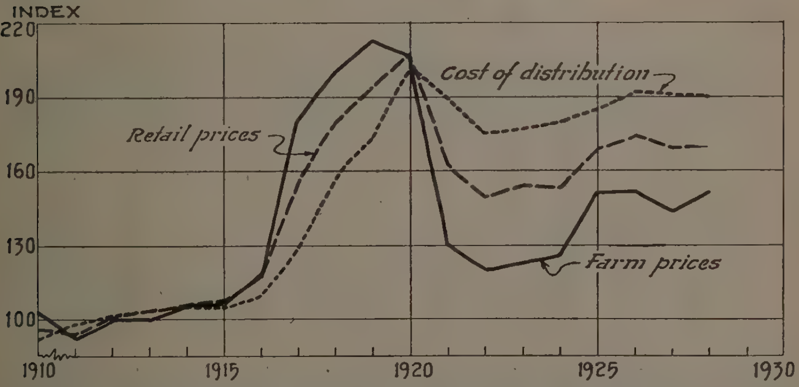

FIGURE 1.—INDEX NUMBERS OF THE UNITED STATES FARM PRICES OF FOODS, COST OF DISTRIBUTION AND THE UNITED STATES RETAIL PRICES, 1910-1928

From 1916 to 1920, costs of distribution were low and farm prices were relatively high. Since 1920, costs of distribution have been high and farm prices low. Retail prices of food in 1928 were 14 points higher than in 1917, but the farmers now receive 32 points less than they received in 1917 because of changes in the cost of distribution. In 1928, costs of distribution were 90 per cent above pre-war; retail prices were 70 per cent; and farm prices only 49 per cent above pre-war.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Rye bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* bu.	Hay ton	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.
January	58.2	38.5	87.4	61.2	71.4	70.6	162.0	2.25	12.3	11.74	62.7	78.5
February	59.5	39.5	89.3	63.7	72.8	71.0	170.9	2.22	12.2	12.01	65.7	83.4
March	60.5	40.1	89.0	62.9	71.5	70.7	173.8	2.18	12.4	12.03	66.9	87.5
April	62.1	40.5	88.8	64.3	72.6	72.2	173.2	2.19	12.4	12.10	68.1	93.1
May	64.7	41.2	89.8	64.9	72.1	73.1	176.3	2.27	12.6	12.23	69.6	97.8
June	67.7	41.8	90.8	64.5	73.5	75.7	175.6	2.31	12.7	12.33	69.4	95.9
July	69.2	41.7	87.4	61.4	72.3	79.0	167.4	2.30	12.7	12.00	74.3	91.8
August	70.9	40.1	85.0	57.3	69.9	77.6	170.7	2.30	12.5	11.56	88.7	96.7
September	73.3	39.1	87.4	59.1	72.0	74.6	170.7	2.29	12.2	11.64	80.4	93.3
October	70.1	39.0	87.4	60.2	73.3	72.7	167.4	2.26	12.1	11.62	69.2	85.0
November	63.4	38.6	88.0	60.1	73.4	71.6	162.2	2.24	12.1	11.64	60.0	76.3
December	58.4	38.9	86.0	60.6	74.2	71.3	154.9	2.29	12.2	12.35	60.7	72.2
Average	64.8	39.9	88.0	61.7	72.4	73.3	168.8	2.26	12.4	11.94	69.6	87.6
1914	72.7	40.3	86.2	50.7	68.5	78.3	132.2	2.25	10.6	11.32	69.3	86.5
1915	72.4	45.1	112.9	57.4	93.0	83.1	157.4	2.88	8.9	10.57	52.5	82.2
1916	75.7	43.6	117.3	66.0	93.2	89.6	198.6	4.25	13.5	10.54	103.8	80.1
1917	141.4	63.4	201.2	107.4	156.0	154.2	281.4	7.29	21.5	13.42	189.9	121.0
1918	150.4	76.8	203.7	124.6	178.4	177.8	358.3	6.20	29.5	18.10	115.7	143.0
1919	156.6	69.4	214.7	105.4	141.3	156.6	402.2	4.41	29.6	20.61	139.4	156.9
1920	144.2	79.7	224.1	120.2	161.1	162.8	361.5	4.08	32.1	21.26	249.5	175.7
1921	57.8	36.1	119.0	50.8	103.6	110.2	150.8	2.84	12.3	12.96	103.8	118.7
1922	58.5	35.8	103.2	50.2	74.5	89.6	205.1	3.70	18.9	11.68	96.7	104.8
1923	80.1	41.5	98.9	56.2	64.4	95.2	235.5	4.01	26.7	12.29	84.1	104.4
1924	91.2	47.3	110.5	67.9	77.3	103.1	218.3	3.57	27.6	13.28	87.0	137.0
1925	99.9	44.5	151.0	71.0	99.3	104.2	244.4	3.94	22.1	12.54	113.9	171.6
1926	69.9	38.9	135.1	55.3	80.2	86.1	207.1	3.17	15.1	13.06	185.7	156.3
1927	78.8	44.9	120.5	67.1	86.2	88.4	195.9	3.07	15.9	12.00	132.3	114.0
1928	89.1	49.0	113.4	69.3	93.1	93.4	196.0	4.06	18.6	10.63	82.9	112.3
1928												
January	75.2	49.3	115.2	73.6	88.0	82.0	188.4	3.11	18.6	10.60	93.6	93.4
February	79.0	51.3	116.2	75.4	89.5	85.2	189.9	3.44	17.0	10.24	96.2	98.6
March	86.2	54.5	121.6	79.4	96.0	90.2	194.8	3.86	17.8	10.19	113.2	109.6
April	91.9	56.9	129.2	81.3	99.8	94.8	198.4	4.26	18.7	10.29	116.8	115.1
May	102.5	62.0	144.3	84.5	111.5	102.3	210.5	4.35	20.1	10.70	103.3	121.4
June	102.2	61.4	132.0	81.7	106.8	109.0	209.0	4.46	19.7	11.01	83.6	124.7
July	102.4	56.2	118.1	77.6	99.2	108.0	195.5	4.61	21.0	10.86	77.9	119.5
August	98.2	38.4	95.2	58.9	83.6	98.1	181.7	4.27	18.8	10.39	73.1	131.0
September	95.1	36.7	94.4	54.1	81.8	92.6	181.6	3.74	17.6	10.59	64.8	120.9
October	84.7	39.0	98.7	55.2	87.1	84.5	198.1	3.95	18.1	10.60	58.0	111.2
November	75.4	39.8	97.1	54.5	86.3	84.8	198.1	4.12	17.8	10.89	56.9	100.2
December	76.1	42.5	98.2	55.0	87.2	88.7	205.4	4.51	18.0	11.23	57.7	101.8
1929												
January	80.2	43.7	98.5	56.2	87.9	91.2	211.1	4.75	17.9	11.61	58.9	104.2

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Rye	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Pota-toes	Sweet pota.
1914	112	101	98	82	95	107	78	100	85	95	100	99
1915	112	113	128	93	128	113	93	127	72	89	75	94
1916	117	109	133	107	129	122	118	188	109	88	149	91
1917	218	159	229	174	215	210	167	323	173	112	273	138
1918	232	192	231	202	246	243	212	274	238	152	166	163
1919	242	174	244	171	195	214	238	195	239	173	200	179
1920	223	200	255	195	223	222	214	181	259	178	358	201
1921	89	90	135	82	143	150	89	126	100	109	149	136
1922	90	90	117	81	103	122	122	164	152	98	139	120
1923	124	104	112	91	89	130	140	177	215	103	121	119
1924	141	119	126	110	107	141	129	158	216	111	125	156
1925	155	111	172	115	137	142	145	174	179	105	166	196
1926	108	97	154	90	111	117	123	140	122	109	267	178
1927	122	113	137	109	119	121	116	136	128	101	190	130
1928	138	123	129	112	129	127	116	180	150	89	119	128
1928												
January	129	128	132	120	123	116	116	138	151	90	149	119
February	133	130	130	118	123	120	111	155	139	85	146	118
March	142	136	137	126	134	128	112	177	144	85	169	125
April	148	140	145	126	137	131	115	195	151	85	172	124
May	158	150	161	130	155	140	119	192	160	87	148	124
June	151	147	145	127	145	144	119	193	155	89	120	130
July	148	135	135	126	137	137	117	200	165	91	105	130
August	138	96	112	103	120	126	106	186	150	90	82	135
September	130	94	108	92	114	124	106	163	144	91	81	130
October	121	100	113	92	119	116	118	175	150	91	84	131
November	119	103	110	91	118	118	122	184	147	94	95	131
December	130	109	114	91	118	124	133	197	148	91	95	141
1929												
January	138	114	113	92	123	129	130	211	146	99	94	133

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chick- lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	34.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70 2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	35.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.84	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1928	146.2	82	21.2	30.3	44.0	89.75	9.14	11.76	7.66	12.09	36.1	8.75
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62
March	177	85	20.1	23.4	43.9	87.95	8.81	11.34	7.85	12.31	35.4	7.48
April	183	85	20.8	22.8	44.0	88.55	8.92	11.18	8.11	12.73	35.6	7.75
May	191	86	21.5	24.2	42.0	89.00	9.09	11.18	8.09	13.03	37.0	8.82
June	189	86	21.5	23.9	42.2	89.90	9.10	11.56	7.84	13.18	38.7	8.70
July	156	85	21.9	25.6	42.4	90.37	9.19	11.87	7.56	12.25	37.6	9.64
August	106	84	21.6	27.4	42.8	90.43	9.51	12.32	7.53	11.88	37.0	10.01
September	97	82	22.3	31.4	44.3	92.56	9.96	13.05	7.58	11.97	36.5	11.17
October	99	80	22.0	34.9	45.2	92.86	9.63	12.62	7.50	11.57	36.0	9.55
November	108	79	21.5	39.6	45.6	93.05	9.27	11.99	7.50	11.50	35.9	8.51
December	118	78	21.2	42.9	46.3	92.87	8.94	11.82	7.29	11.41	35.6	7.93
1929												
January	124	77	21.6	33.0	45.3	91.54	8.97	12.20	7.84	12.23	35.9	8.18

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1928	154	58	184	140	172	183	172	172	167	204	203	121
1928												
January	167	55	183	129	159	176	168	160	163	196	179	111
February	163	57	184	111	161	181	171	167	167	200	186	107
March	163	59	179	109	169	180	167	164	164	198	189	101
April	160	58	181	133	173	179	162	165	160	197	198	102
May	156	60	182	145	170	180	165	170	163	202	208	122
June	154	59	182	143	180	181	167	171	165	209	221	122
July	152	60	184	153	185	184	172	176	166	201	215	133
August	134	60	180	159	181	183	177	179	170	210	208	134
September	138	59	187	163	179	187	186	186	173	213	211	147
October	143	58	186	157	175	186	181	180	174	210	211	129
November	149	58	189	155	171	186	178	173	176	210	209	122
December	153	58	196	143	164	186	171	171	167	201	206	118
1929												
January	128	55	202	111	160	194	178	180	170	211	194	116

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn	Oats	Wheat	Barley	Buckwheat	Beans	Hay	Potatoes	Apples	Horses
	bu.	bu.	bu.	bu.	bu.	bu.	ton	bu.	bu.	head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1928	110	62	145	89	97	4.85	10.08	97	160	133
1928										
January	96	56	128	82	83	3.90	10.20	120	160	123
February	102	58	129	85	87	4.02	9.70	115	175	128
March	105	61	141	90	95	4.47	9.80	130	195	132
April	112	66	153	98	97	4.92	9.80	135	195	136
May	119	76	180	105	105	5.10	9.90	130	200	135
June	118	77	172	110	115	5.28	10.30	100	200	140
July	115	76	160	99	118	5.34	9.70	75	220	137
August	115	60	129	90	104	5.13	9.70	75	120	135
September	116	51	131	77	94	4.74	10.00	80	95	132
October	113	50	138	75	88	4.80	10.50	75	100	129
November	107	53	138	77	89	5.01	10.70	65	125	134
December	102	54	138	77	92	5.43	10.70	65	135	133
1929										
January	103	55	133	76	94	5.49	10.90	65	140	131

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buckwheat	Beans	Hay	Potatoes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1928	147	129	146	116	129	204	65	137	195	75
1928										
January	133	124	129	109	117	167	67	188	198	71
February	144	123	129	113	121	172	64	167	201	73
March	148	130	141	117	134	194	63	191	217	75
April	158	135	153	127	133	216	64	196	189	75
May	163	152	180	133	140	217	63	181	177	76
June	157	151	169	138	149	226	63	143	204	78
July	151	149	158	127	140	221	61	109	250	78
August	149	118	134	117	128	209	66	85	174	76
September	143	104	136	101	124	192	66	90	153	75
October	143	106	142	100	119	197	69	109	164	73
November	139	115	142	103	124	208	72	116	192	77
December	136	115	141	103	128	223	70	102	182	76
1929										
January	143	122	134	101	132	235	71	102	173	76

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.	c.	c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1 79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	59.4	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	55.6	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	53.6	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	52.3	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	54.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	50.7	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	46.0	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1928	26.3	40	46.9	50	2.66	126.92	13.37	7.60	6.11	12.51	42	9.68
1928												
January	24.8	46	50.6	51	2.95	123.00	12.90	6.80	6.00	11.60	37	9.00
February	25.5	40	40.1	50	2.85	127.00	13.20	7.10	6.10	12.50	38	8.90
March	26.8	32	36.4	50	2.53	130.00	13.20	7.00	6.30	13.00	39	8.60
April	26.3	28	34.8	50	2.30	128.00	12.60	7.50	6.30	13.00	42	8.60
May	26.6	26	35.7	49	2.21	123.00	12.20	7.50	5.90	13.20	42	9.40
June	27.1	30	37.4	48	2.11	124.00	12.90	7.60	6.00	14.40	44	9.40
July	26.3	33	40.4	49	2.33	126.00	13.20	7.60	6.70	12.90	43	9.70
August	26.3	38	46.5	49	2.68	124.00	13.70	7.80	6.10	12.50	43	10.30
September	26.6	43	55.8	51	2.83	128.00	14.50	8.20	5.90	12.40	44	11.40
October	26.3	50	65.1	51	2.94	130.00	14.40	8.30	6.00	11.60	43	11.00
November	26.3	57	67.0	52	3.13	130.00	13.80	8.00	6.10	11.40	44	10.20
December	26.3	55	53.3	53	3.09	130.00	13.80	7.[illegible]0	5.90	11.60	43	9.70
1929												
January	26.8	43	46.6	52	3.05	128.00	14.10	8.00	6.70	13.10	42	9.50

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	173	152	155	127	127	101	108	140	95	116
1922	186	143	162	135	133	120	122	96	118	169	143	119
1923	174	146	156	158	150	130	128	99	131	184	195	109
1924	160	139	152	148	128	121	130	100	136	187	200	110
1925	170	154	157	155	153	137	136	108	149	202	210	154
1926	180	143	147	155	156	162	142	108	139	192	176	161
1927	173	136	134	161	166	196	146	116	140	187	162	140
1928	178	143	136	161	167	227	161	139	145	196	200	127
1928												
January	182	121	127	150	155	229	152	129	144	181	168	121
February	182	125	118	152	157	234	158	134	145	195	173	119
March	189	114	141	161	151	232	158	135	147	201	186	111
April	178	133	155	167	158	227	163	140	138	191	200	110
May	179	137	157	169	186	221	166	133	137	202	210	124
June	178	150	153	171	197	218	164	138	142	217	220	127
July	173	150	149	181	185	223	162	139	161	196	205	130
August	166	152	151	175	177	219	162	138	142	198	215	133
September	171	159	152	170	178	224	166	145	145	201	210	144
October	170	167	144	165	164	232	163	145	148	193	205	139
November	181	163	122	163	166	231	157	147	155	189	210	137
December	191	134	108	156	162	230	158	143	136	188	205	132
1929												
January	197	113	117	153	161	238	167	152	160	204	191	128

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[1] Monthly average price of the highest grade of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, closely selected extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net pool price. (+8c for fat −3c for freight).

Wholesale Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mixed feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26 66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29 18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34 00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40.33	44.09
1928	45.54	44.93	42.80	45.38	37.99	39.39	41.31	56.80	58.95	75.68	45.45	47.08
1928												
January	42.92	43.60	42.40	46.34	38.70	38.60	39.80	53.30	54.80	76.80	44.31	44.56
February	45.13	44.60	42.00	47.08	40.75	40.81	40.81	54.55	55.85	75.80	45.56	45.86
March	45.85	44.60	42.50	48.55	44.25	43.88	44.56	56.93	59.38	74.80	47.22	47.87
April	46.83	44.60	43.13	50.46	41.94	41.94	45.63	58.13	64.51	74.30	47.82	49.06
May	48.32	44.60	47.30	53.86	43.15	45.20	46.25	57.70	70.70	75.80	49.66	52.89
June	46.56	44.60	45.00	54.00	36.94	42.56	44.00	56.33	70.00	75.80	48.07	50.86
July	47.49	44.60	44.50	53.72	34.85	39.94	42.50	54.50	60.98	75.80	46.58	49.45
August	47.25	45.43	43.00	37.85	31.50	31.88	38.25	54.70	55.00	75.80	42.65	44.96
September	46.48	45.80	41.25	36.40	31.94	34.25	36.13	54.58	50.18	75.80	41.97	44.58
October	46.42	45.70	39.30	37.00	34.75	36.00	37.60	58.00	54.81	75.80	43.14	45.53
November	42.23	45.55	40.63	38.35	38.00	38.50	39.13	61.10	55.35	75.80	43.84	44.77
December	40.99	45.50	42.63	40.90	39.06	39.06	41.00	61.80	55.80	75.80	44.55	44.53
1929												
January	43.84	44.35	41.30	42.46	38.00	37.95	40.70	61.60	55.55	74.80	45.98	44.80

Index Numbers (corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1928	156	156	152	141	153	152	157	168	181	144	156	148
1928												
January	156	144	152	149	149	148	148	154	167	148	150	143
February	165	146	152	148	155	156	151	157	174	145	154	146
March	172	152	159	153	169	168	164	171	186	143	163	153
April	169	160	164	156	163	163	172	174	198	142	167	155
May	168	163	174	165	171	177	177	174	216	145	173	166
June	163	162	164	163	159	171	173	175	213	145	169	160
July	161	169	161	160	149	154	167	169	185	145	165	154
August	150	154	145	114	127	117	145	159	161	145	142	137
September	142	150	132	113	129	126	135	154	147	143	138	135
October	151	159	133	119	147	140	144	168	171	142	149	142
November	141	160	141	123	159	153	150	179	175	141	153	140
December	142	154	152	131	158	154	155	180	177	141	154	141
1929												
January	159	146	148	137	146	145	151	178	169	144	156	143

INDEX NUMBERS OF PRICES PAID TO PRODUCERS OF FARM PRODUCTS*

Corresponding months 1910-14 = 100

Year	Vermont	Connecticut	New York	Pennsylvania	Ohio	Indiana	Missouri	Iowa	Georgia	Alabama	Kentucky	Oklahoma	Texas	Minnesota	So. Dakota	No. Dakota	Utah	Oregon	U. S. farm	U. S. food	Canada	England & Wales†
1910		94	101	99	103	103	101	102	110	110	103	104	108	105		110	107	107	104	103	92	95
1911		95	97	94	89	88	88	87	103	102	94	98	98	97		102	94	97	94	92	96	95
1912		101	101	101	101	100	101	99	86	91	98	96	92	99		101	98	96	99	100	87	102
1913		105	97	100	103	103	106	104	98	101	102	101	100	97		89	100	98	99	100	92	103
1914	101	103	103	103	105	105	110	108	91	96	108	99	95	102		100	102	102	101	105	133	101
1915	100	101	100	102	104	102	108	103	80	85	99	103	93	103		121	108	106	101	106	114	127
1916	115	109	116	115	120	116	120	120	117	116	112	126	120	125		131	125	114	119	117	148	160
1917	156	145	170	170	181	176	178	181	184	175	159	190	177	186		202	178	168	180	181	209	201
1918	196	182	186	193	201	195	200	207	242	230	207	217	220	204		224	193	191	206	200	211	232
1919	215	197	206	206	216	205	208	219	238	230	211	222	222	217	225	238	202	198	215	213	234	258
1920	232	213	217	217	210	189	188	189	257	244	216	208	217	202	192	237	216	195	214	207	190	292
1921	160	159	144	140	130	111	114	104	105	109	167	107	105	114	100	123	112	119	119	130	137	219
1922	147	144	134	127	127	112	112	111	147	144	157	121	132	113	106	115	126	119	124	121	108	169
1923	168	154	142	138	133	110	112	115	202	189	158	141	167	116	109	109	140	119	137	124	93	157
1924	151	142	128	136	134	116	116	122	202	198	154	144	166	123	120	123	140	121	140	126	133	161
1925	167	152	147	154	157	143	143	147	170	166	160	152	156	145	149	153	153	147	154	152	132	159
1926	177	153	156	160	155	140	141	141	129	131	155	130	126	150	147	150	140	137	142	154	130	151
1927	177	152	151	153	147	130	137	140	128	132		125	129	143	137	137	143	132	137	145	123**	144
1928		153	153	155	154	137	147	145	150	150			150	141	139	129	149	144	145	149		147
1928																						
Jan.		153	148	149	141	127	140	141	149	148			146	139	130	131	149	136	141	143		145
Feb.		151	148	149	141	128	138	135	142	139			141	139	128	128	144	134	138	142		143
Mar.		158	149	152	146	129	140	133	145	143			148	140	131	133	148	138	141	143		145
Apr.		155	152	155	152	134	143	136	151	149			149	141	139	139	143	141	145	147		151
May		162	164	166	167	145	150	151	159	159			158	156	149	151	146	145	153	157		154
June		156	169	165	164	142	148	153	155	157			155	154	148	142	150	143	150	156		153
July		142	164	161	163	146	150	157	162	165			159	156	158	136	151	151	152	156		145
Aug.		156	152	156	158	142	154	147	153	155			149	137	145	119	146	143	145	151		144
Sept.		157	152	156	159	151	165	153	144	144			146	132	150	117	153	147	146	154		144
Oct.		148	149	156	154	139	148	147	149	148			148	131	134	119	156	150	144	148		139
Nov.		149	153	155	149	131	144	144	148	146			150	136	133	116	155	149	142	146		141
Dec.		148	147	152	150	129	140	145	148	148			149	142	129	116	153	151	141	143		140

*Index numbers for Vermont were prepared by H. P. Young, Vermont Agricultural Experiment Station, Burlington, Vermont; those for Connecticut by A. E Waugh, Connecticut Agricultural College, Storrs, Conn.; those for Pennsylvania by F. P. Weaver, Department of Agricultural Economics, Pennsylvania State College, School of Agriculture, State College, Pa.; those for Ohio by J. I. Falconer, Department of Rural Economics, Ohio State University, Columbus, Ohio; those for Indiana by E. C. Young and O. A. Day, School of Agriculture, Purdue University, Lafayette, Ind.; those for Missouri by D. R. G. Cowan, Department of Rural Life, University of Missouri, Columbia, Mo.; those for Iowa by K. Bjorka, Agricultural Economics and Farm Management Section, Iowa State Agricultural College, Ames, Iowa; those for Alabama by J. D. Pope, Alabama Polytechnic Institute, Auburn, Ala.; those for Kentucky by C. U. Jett, City National Bank, Paducah, Ky.; those for Oklahoma by J. O. Ellsworth, Agricultural Economics Department, Oklahoma Agricultural and Mechanical College, Stillwater, Okla.; those for Minnesota by A. G. Black and Dorthea D. Kittredge, Department of Agricultural Economics, Minnesota Agricultural Experiment Station, St. Paul, Minn.; those for South Dakota by R. E. Post, Department of Farm Economics, South Dakota State College of Agriculture and Mechanic Arts, Brookings, S. D.; those for North Dakota by O. M. Fuller, Department of Farm Management, North Dakota Agricultural College, Fargo, N. D.; those for Utah by W. P. Thomas, Utah Agricultural College, Logan, Utah; those for Canada by the Dominion Bureau of Statistics, Agricultural Branch, Ottawa, Canada; and those for England and Wales by Ministry of Agriculture and Fisheries, London, England.

†1911-13 = 100.

**Estimated.

From a longtime standpoint, Western New York, from Syracuse to Buffalo, has been one of the most productive and most prosperous farming regions in America, but it has suffered very severely during the agricultural depression. Some farmers have made money if they happen to have the right type of farming, or have obtained good yields in years when production was generally low. The average returns in the region have been so low that good farms that have to be sold are bringing prices far below anything known for several generations. No one can tell just when the tide will turn, but the good farms in this area are selling at bargain prices.

Farm Prices in Various States

Index numbers of prices paid to farmers in various states are given on page 1033. The states that have a combination of wheat and hogs have very low index numbers. In December, the average farm price of wheat was 14 per cent above pre-war, and hogs were 18 per cent above. These facts account for an index number of 116 for North Dakota, and 129 for South Dakota and Indiana. Prices in the other states listed, vary from 40 to 53 per cent above pre-war, depending on the type of farming. Prices which farmers receive in England and Wales average 40 per cent above pre-war.

Farm Wages

Before the World War, farm wages in the West were higher than in the East. During the five years, 1910-14, farm wages by the month with board, in Iowa, averaged $29.34. In New York, they averaged $24.56. Farm wages in Iowa were 19 per cent above those paid in New York.

Following the World War, competition with nearby cities has made farm wages in New York higher than in Iowa. Farm wages in New York in 1928 were 3 per cent above comparable wages paid in Iowa.

Wages paid farm labor in the southern states are always lower than those paid in other parts of the country. During 1928, the average farm wages in Alabama were less than one-half the amount paid in New York, Iowa, or Oregon. The negroes take so many holidays that they work only about two-thirds as many hours as the northern farm laborers. They prefer leisure to cash.

Farm wages are influenced by prices of farm products and by city wages. In the United States as a whole, farm wages are more influenced by farm prices than by city wages, whereas in New York State, wages of farm labor are more affected by city wages than by prices of farm products (figures 2 and 3).

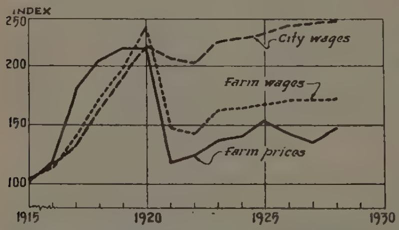

FIGURE 2.—RELATION OF FARM PRICES AND CITY WAGES TO FARM WAGES IN THE UNITED STATES, 1910 TO 1928

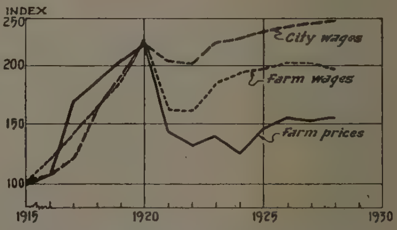

FIGURE 3.—RELATION OF FARM PRICES AND CITY WAGES TO FARM WAGES IN NEW YORK STATE, 1910 TO 1928

In the United States, farm wages are more influenced by farm prices than by city wages. In New York State, farm wages are more affected by city wages than by prices of farm products.

A theory of land prices that has received wide acceptance is that wages are equalized, and that the resulting profits all go to land, and are expressed in prices of land. However, in the United States as a whole, farm wages have been more affected by farm prices than by city wages, otherwise prices of farm land would be much lower than they are.

TABLE 1.—FARM WAGES BY THE MONTH WITH BOARD 1910 to 1928

Year	New York	Pennsylvania	Alabama	Texas	Iowa	North Dakota	Oregon	United States
1910-14	24.56	19.75	13.56	18.74	29.34	30.08	31.40	20.41
1910	23.50	18.75	13.00	18.00	28.00	29.00	32.00	19.58
1911	24.00	19.20	13.70	18.40	28.30	28.90	31.00	19.85
1912	24.40	19.80	13.70	19.00	29.60	30.30	31.00	20.46
1913	25.50	20.60	14.40	19.20	30.70	31.00	31.00	21.27
1914	25.40	20.40	13.00	19.10	30.10	31.20	32.00	20.90
1915	25.40	21.00	12.50	18.70	31.10	32.00	31.30	21.08
1916	29.40	24.00	12.50	20.40	34.10	33.20	34.50	23.04
1917	35.00	30.00	16.00	25.00	41.00	41.00	44.00	28.64
1918	40.00	34.00	21.20	31.00	50.00	52.00	58.00	35.12
1919	43.30	37.80	25.50	38.80	55.00	56.00	64.00	40.14
1920	54.40	47.00	29.30	42.00	66.35	70.00	68.00	47.24
1921	40.00	35.00	17.00	26.00	39.60	40.00	44.50	30.25
1922	39.70	33.00	17.60	24.20	36.80	38.70	43.50	29.31
1923	45.50	38.00	19.90	28.30	43.30	40.30	52.50	33.09
1924*	47.30	39.24	21.67	29.33	43.82	41.92	45.93	33.34
1925*	48.40	39.42	23.46	27.75	44.58	43.17	45.79	33.88
1926*	49.60	40.63	22.00	28.67	45.79	44.17	49.25	34.85
1927*	49.42	40.21	21.08	26.83	46.92	44.58	49.96	34.93
1928*	48 53	38.83	21.50	29.54	47.37	45.12	48.17	34.96

*The quarterly wages published by the United States Department of Agriculture were weighted in the following manner to obtain the average yearly wage rate: April 1; July 2; October 2; and the following January 1.

TABLE 2.—INDEX NUMBERS OF FARM WAGES BY THE MONTH WITH BOARD

Year	New York	Pennsylvania	Alabama	Texas	Iowa	North Dakota	Oregon	United States
1910	96	95	96	96	95	96	102	96
1911	98	97	101	98	96	96	99	97
1912	99	100	101	101	101	101	99	100
1913	104	104	106	102	105	103	99	104
1914	103	103	96	102	103	104	102	102
1915	103	106	92	100	106	106	100	103
1916	120	122	92	109	116	110	110	113
1917	143	152	118	133	140	136	140	140
1918	163	172	156	165	170	173	185	172
1919	176	191	188	207	187	186	204	197
1920	221	238	216	224	226	233	217	231
1921	163	177	125	139	135	133	142	148
1922	162	167	130	129	125	129	139	144
1923	185	192	147	151	148	134	167	162
1924	193	199	160	157	149	139	146	163
1925	197	200	173	148	152	144	146	166
1926	202	206	162	153	156	147	157	171
1927	201	204	155	143	160	148	159	171
1928	198	197	159	158	161	150	153	171

Changes in the Ownership of Farms

According to the United States Department of Agriculture, 3.6 per cent of the farms in New York changed hands by voluntary sales, in the year ending last March. Delinquent taxes, foreclosures, bankruptcies, etc., accounted for more than one-fourth of the transfers of farms in the last three years.

TABLE 3.—PER CENT OF FARMS CHANGING OWNERSHIP IN NEW YORK
MARCH 15, 1926 TO MARCH 15, 1928

Method of transfer	Per cent		
	1926	1927	1928
Inheritance and gift	0.9	1.0	0.9
Delinquent taxes	0.4	0.4	0.5
Foreclosure, bankruptcy, default of contract	1.1	1.3	1.2
Voluntary sales and contracts	3.3	3.8	3.6
Not classified	0.3	0.2	0.2
Total transfers	6.0	6.7	6.4

*Wiecking, E. H., The Farm Real Estate Situation, 1927-28. United States Department of Agriculture, Circular No. 60, p. 44, December, 1928.

Population of New York State Farms

According to estimates of the New York State Department of Farms and Markets, the population of New York's farms decreased 2,000 last year. Twenty-five thousand men and boys left farms for other types of work and 9,000 left other kinds of work for farming. The population now on farms is estimated at 767,000, a decrease of 132,000 in twelve years.

TABLE 4.—ESTIMATED FARM POPULATION IN NEW YORK STATE, FEBRUARY 1, 1917-1929

Year	Persons living on farms February 1	Men and boys who left farms work for other kinds of work, year ending February 1	Men and boys who left other kinds of work for farming, year ending February 1	Hired men on farms February 1
1916	—	—	—	77,000
1917	898,000	—	—	65,000
1918	858,000	24,000	16,000	54,000
1919	824,000	—	—	46,000
1920	801,000	33,000	11,000	38,000
1921	792,000	40,000	16,000	35,000
1922	809,000	17,000	14,000	36,000
1923	784,000	35,000	8,000	32,000
1924	769,000	42,000	15,000	29,000
1925	768,000	30,000	11,000	28,000
1926	765,000	32,000	13,000	27,000
1927	757,000	37,000	13,000	25,000
1928	769,000	27,000	18,000	26,000
1929	767,000	25,000	9,000	25,000

Horses

The number of horses and mules continues to decline. There are 600,000 less than last year (table 5). Most of the horses on hand are very old so that the average value is lower than it would be if there were more young horses. Horses have, however, shown some rise in price during the last four years. Thus far, the rise has been slow, but judging from the age of horses and the shape of previous cycles, a rapid rise is likely to take place in a year or two (figure 4).

The rise in price began in 1925 and has been most noticeable in eastern states.

TABLE 5.—LIVESTOCK ON FARMS ON JANUARY 1 AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	Horses and colts	Mules and mule colts	Sheep and lambs	Hogs and pigs	Cattle
1910	20,000,000	4,200,000	52,000,000	58,000,000	69,000,000
1911	20,000,000	4,300,000	54,000,000	66,000,000	61,000,000
1912	21,000,000	4,400,000	52,000,000	65,000,000	58,000,000
1913	21,000,000	4,400,000	51,000,000	61,000,000	57,000,000
1914	21,000,000	4,400,000	50,000,000	59,000,000	57,000,000
1915	21,000,000	4,500,000	50,000,000	65,000,000	58,000,000
1916	21,000,000	4,600,000	49,000,000	68,000,000	62,000,000
1917	21,000,000	4,700,000	48,000,000	68,000,000	65,000,000
1918	22,000,000	4,900,000	49,000,000	71,000,000	67,000,000
1919	21,000,000	5,000,000	49,000,000	75,000,000	69,000,000
1920	20,000,000	5,400,000	39,000,000	59,000,000	69,000,000
1921	19,000,000	5,500,000	37,000,000	56,000,000	67,000,000
1922	19,000,000	5,500,000	36,000,000	58,000,000	67,000,000
1923	19,000,000	5,500,000	37,000,000	68,000,000	66,000,000
1924	18,000,000	5,400,000	38,000,000	66,000,000	65,000,000
1925	16,500,000	5,700,000	38,000,000	55,600,000	62,000,000
1926	15,800,000	5,700,000	40,000,000	52,100,000	59,000,000
1927	15,100,000	5,700,000	42,000,000	54,800,000	57,000,000
1928	14,500,000	5,500,000	45,000,000	60,400,000	56,000,000
1929	14,000,000	5,400,000	47,000,000	55,000,000	56,000,000

Probably the lowest point in horse prices occurred in 1924. At a well attended public auction of 21 horses, at the College of Agriculture, in March 1924, four grade percheron mares, 3 years old, averaging 1076 pounds in weight, all broken, shod, and sound, brought an average of

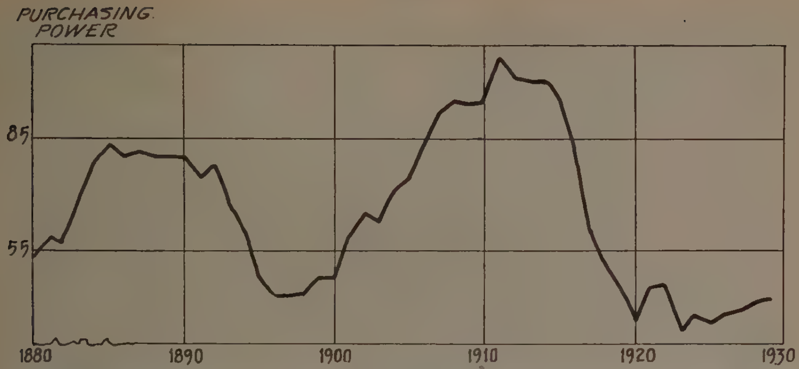

FIGURE 4.—PURCHASING POWER OF THE PRICE OF HORSES IN THE UNITED STATES, 1880-1929.

Periods of high prices are usually about 25 years apart. This time the period of low prices was prolonged by the necessity of readjusting to a permanently reduced number of horses. Apparently the price of horses has begun to advance. A sharp rise may be expected in a year or two.

$72.50 per head.[1] At an auction last spring similar animals brought nearly twice this amount. In the depths of a depression farm prices gathered by any means do not show the true situation as it is so difficult to sell that few sales are made. The real improvement in price which a man could get if he sold a car load of horses at public auction, is probably better represented by these figures than by the prices given by the United States Department of Agriculture.

Mules have been fairly stable in numbers. Cotton production has expanded. Thus far, the tractor, truck, and automobile have had their primary influence in the displacement of horses, rather than mules.

When compared with the prices of oats and hay, which may be taken to represent the feed cost of producing horses, the price of horses is not so low as is the purchasing power. The lowest ratio in the last cycle was 68 in 1925 (table 6). In the preceding low cycle, the ratio went as low as 59 in 1895. In the cycle before that, the ratio went as low as 68 in 1882.

The low cost of feed is due in part to the number of horses. Since there are few horses, oats and particularly hay are not selling well. Since

TABLE 6.—RATIO OF PRICES OF HORSES TO PRICES OF HORSE FEED*

Year	Ratio	Year	Ratio	Year	Ratio
1869	82	1889	127	1909	121
1870	93	1890	148	1910	142
1871	88	1891	97	1911	150
1872	81	1892	108	1912	115
1873	92	1893	99	1913	157
1874	86	1894	79	1914	137
1875	70	1895	59	1915	127
1876	84	1896	66	1916	142
1877	90	1897	73	1917	113
1878	100	1898	76	1918	84
1879	107	1899	79	1919	71
1880	84	1900	85	1920	70
1881	79	1901	93	1921	81
1882	68	1902	80	1922	100
1883	101	1903	101	1923	86
1884	124	1904	104	1924	73
1885	134	1905	115	1925	68
1886	124	1906	141	1926	78
1887	125	1907	141	1927	76
1888	112	1908	111	1928	83
				1929	88

*Farm prices of horses on January 1, compared with 100 bushels of oats and 3 tons of hay on the preceding December 1. When the ratio for 1869-1923 = 100.

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[1] Farm Economics, No. 13, p. 119, April 1924.

oats and hay are cheap, this part of the cost of raising a horse is low. This agrees with the general principal of economics, that all the items of cost are usually influenced by price. For a further illustration of this principle, see the farm wage situation on page 1034.

Sheep

In the severe depression of 1920, sheep decreased 10,000,000, in a single year. Three million more disappeared in the following two years. Since that time, the number has steadily increased and now is nearly back to the 1919 level, but it is still below the numbers on farms before the war. As a result of the great decline in numbers, the purchasing power of sheep rose rapidly from 1922 to 1926 (figure 5). Since that time, it has risen slowly. Apparently, the peak in prices is practically reached.

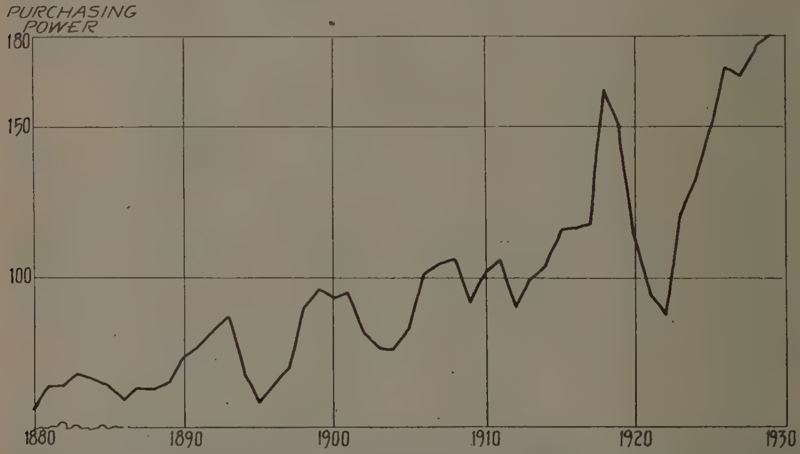

FIGURE 5.—PURCHASING POWER OF THE PRICE OF SHEEP IN THE UNITED STATES, 1880-1929.
Cycles occur, but are less regular than for other classes of livestock. At present, prices are very high.

Hogs

The number of hogs has declined 5,400,000 in the past year (table 5). The number of sows bred for next year indicates that a further decline will occur, and probably will be accompanied with rising prices and increased

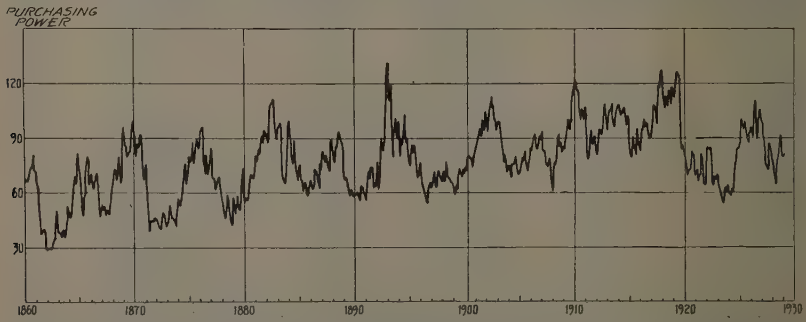

FIGURE 6.—PURCHASING POWER OF THE PRICE OF HEAVY HOGS AT CHICAGO, 1860-1928.
The major cycles of high prices of hogs occur at intervals of about 5 to 7 years. Apparently, the next peak will come about 1930.

breeding for the years 1930 and 1931. This year, and probably most of next year, there will be a combination of a short supply of hogs and a short supply of cattle. These two cycles are of unequal length and occasionally the surpluses and shortages are coincident. From present appearances, the next peak of hog prices and the peak of cattle prices will be almost coincident (figures 6 and 7). Some agitation in cities concerning meat prices may be expected to develop in the next few years.

Cattle

The number of cattle has declined 13,000,000 in the nine years of the agricultural depression (table 5). The number is now less than it was in 1913, in the previous period of shortage. This decline is due to the disaster in the years from 1920 to 1925. Apparently, beef cattle will rise in price for another year or two. Thus far, each cycle of high and low prices has been more violent than the preceding one. Thus far, the present cycle has followed the usual relationships. The writers have given an explanation in Bulletin 466 of why cycles of over- and under-production may be expected to become more violent unless great effort is put forward to equalize production.[1] Farm trains are sometimes run in the period of shortage to stimulate production, but production needs no stimulus when prices are high. It then needs caution. Stimulus is needed when prices are low, just at a time when it is most difficult to get any interest in the question.

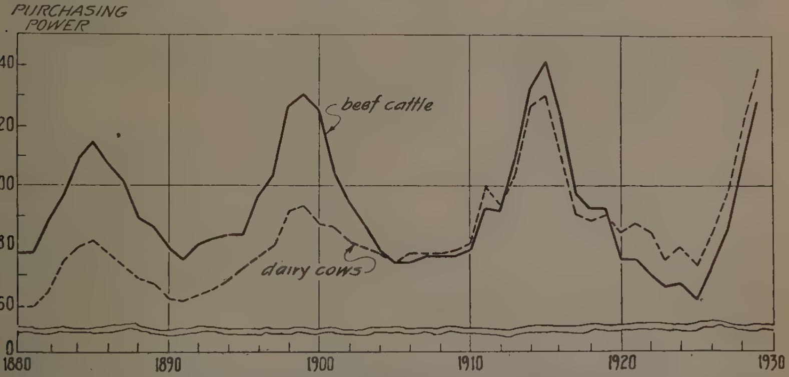

FIGURE 7.—PURCHASING POWER OF THE PRICES OF BEEF CATTLE AND DAIRY COWS IN THE UNITED STATES, 1880-1929.

The major centers of high and low prices of dairy cows and beef cattle occur at the same time. The last high-priced period was in 1915. Apparently dairy cows and beef cattle will reach a peak about 1930 or 1931. Due to the unusual shortage, it is also likely that prices will rise higher than in 1885, 1899 or 1915.

As has been shown in Farm Economics No. 34 and 43, prices of purebred animals lag behind the prices of grades. The peak in the prices of purebreds will probably not be reached for several years.

Dairy Cattle

The number of dairy cows in the United States has increased very little in the last three years (table 7). In 1926, there was one heifer for each 5.7 cows, now there is one for each 5 cows.

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[1] Warren, G. F. and Pearson, F. A. The Interrelationships of Supply and Price. Cornell University Agricultural Experiment Station Bulletin p. 15, 466. March 1928.

TABLE 7.—DAIRY CATTLE ON FARMS ON JANUARY 1 AS REPORTED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE

Year	United States			New York		
	Milk Cows and heifers two years old and older	Dairy Heifers one to two years old	Number of cows per heifer	Milk Cows and heifers two years old and older	Dairy Heifers one to two years old	Number of cows per heifer
1920	21,427,000	4,418,000	4.8	1,499,000	253,000	5.0
1921	21,408,000	4,155,000	5.2	1,477,000	202,000	7.3
1922	21,788,000	4,023,000	5.4	1,462,000	193,000	7.6
1923	22,063,000	4,147,000	5.3	1,449,000	206,000	7.0
1924	22,255,000	4,137,000	5.4	1,422,000	191,000	7.4
1925	22,481,000	4,195,000	5.4	1,383,000	182,000	7.6
1926	22,188,000	3,916,000	5.7	1,362,000	168,000	8.1
1927	21,801,000	4,059,000	5.4	1,318,000	178,000	7.4
1928	21,824,000	4,201,000	5.2	1,330,000	197,000	6.8
1929	21,820,000	4,377,000	5.0	1,330,000	222,000	6.0

There was no change in the number of dairy cows in New York last year, but the number of yearling heifers increased 25,000.

During the year, 56,229 cattle were killed for tuberculous. The cattle that are slaughtered are of all ages. Some of them are so old or so badly diseased that in any event they would have been gone by this time. The present shortage of cows is primarily due to slaughter of too many heifer calves in the 8 years of depression.

The worst milk prices occurred in 1924, and few heifers were raised in 1925. Only 168,000 were on hand January 1st, 1926. Now there are 222,000 yearling heifers on hand, an increase of 54,000 since 1926. Had this number of heifers been raised every year, or one heifer to each 6 cows, there would probably be too many cows in the State. It will take several years before there will be too many, as there is a shortage in practically all ages of cows except those 9 years old or older.

The lowest prices of milk occurred in 1924, when there were large surpluses of cows 5 to 8 years old, and no material shortage of cows of any age. This resulted in raising so few calves in 1925, that there is an extreme shortage of cows raised in that year. The greatest shortage and the highest price of cows will probably occur this year or next. In 1931, the increased number of yearling heifers now on hand will be three years old and there will be a large number of two-year-olds. Presumably the shortage will be a little less acute than at present.

Table 8 shows the response of production to prices and how a shortage of heifers raised in a given year affects the number of cows in later years.

TABLE 8.—PAST AND PROBABLE FUTURE SURPLUSES AND SHORTAGES OF COWS OF DIFFERENT AGES IN NEW YORK*

Ages of cows and heifers	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
Calves				−	− −	− −	− −		+	+	+ +	+ +	+ +	+
1	+ +				−	− −	− −	− −		+	+	+ +	+ +	+ +
2	+ +	+ +				−	− −	− −	− −		+	+	+ +	+ +
3	+ +	+ +	+ +				−	− −	− −	− −		+	+	+ +
4	+	+ +	+ +	+ +				−	− −	− −	− −		+	+
5	+	+	+ +	+ +	+ +				−	− −	− −	− −		+
6		+	+	+ +	+ +	+ +				−	− −	− −	− −	
7	−		+	+	+ +	+ +	+ +				−	− −	− −	− −
8	−	−		+	+	+ +	+ +	+ +				−	− −	− −
9	−	−	−		+	+	+ +	+ +	+ +				−	− −
10	−	−	−	−		+	+	+ +	+ +	+ +				−

*+ indicates a surplus, + + indicates a very large surplus, − indicates a shortage and − − indicates a decided shortage. The blank spaces indicate approximately the right number of cows of that age. No one can tell exactly when the shortage of cattle will be over, but the table shows the method by which surpluses and shortages succeed one another.

Because of the low prices of 1924, there is now a great shortage of four-year-old cows. In 1932, this will give a great shortage of seven-year-old cows.

Data on the shipments of cattle for breeding purposes into and out of the State, furnished by the Department of Farms and Markets, are shown in table 9. The net movement was out of the State from 1923 to 1925, but there has been a net movement into the state during the past three years. This movement will continue this year.

TABLE 9.—CATTLE SHIPPED INTO AND OUT OF NEW YORK STATE FOR BREEDING PURPOSES, 1923-1928

Year	Number of cattle shipped: Into New York	Number of cattle shipped: Out of New York	Net movement: Into New York	Net movement: Out of New York
1923	5,333	11,464	—	6,131
1924	5,587	15,042	—	9,455
1925	12,003	12,357	—	354
1926	16,636	7,545	9,091	—
1927	42,318	7,285	35,033	—
1928	41,483	7,978	33,505	—
Total	123,360	61,671	77,629	15,940

The cycles of purchasing power of prices of dairy cattle in New York State and the United States are shown in figure 8. When compared with prices of other things, cows are now far higher than they ever were before. Prices in New York State are very high compared with prices for the United States as a whole. Judging by the shape of the curve and the number on hand, prices are likely to rise still higher this year. Heifers raised this year will probably bring a good price when 2 or 3 years old, but cannot be expected to sell at as high a price as cows are now bringing.

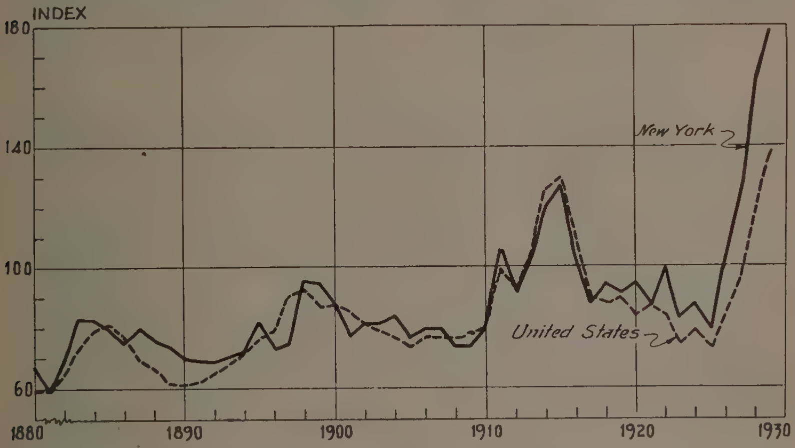

FIGURE 8.—PURCHASING POWER OF THE PRICES OF DAIRY COWS IN NEW YORK AND IN THE UNITED STATES, JANUARY 1, 1880 TO 1929.

The shortage of cows was felt sooner and much more decidedly in New York than in western states. Apparently, prices will rise for another year and may possibly rise for two years.

Shortage of Milk in the Fall

Two articles follow on the milk supply. It is extremely important to New York farmers that sufficient amount of milk be produced in the fall to meet the needs of our cities. If there is not enough milk, new territory will have to be opened to meet the needs. If once opened, the new territory will want to ship during all the months of the year, so that the surplus in the larger part of the year will be more serious than at present.

The only ways to get more milk for next fall are to retain cows that will be giving milk in the fall and that otherwise would be discarded; to ship in cows that will give milk in the fall; to delay the breeding of cows that are to freshen in the winter; to feed and care for the cows so that they will give more milk in the fall; and to feed and milk three times a day in the fall. All these means should be given attention.

Plans should be made now for assuring ample pasture or other feed in the latter part of the summer. There is a time in the fall when the pastures are poor, and the fall work is pressing. At that time the cows are often neglected. The cows that are giving milk in the fall should be put under winter feeding conditions at an earlier date.

It would seem desirable to make plans for bringing into the state, cows that will freshen in the fall.

Some of the cows which would freshen in the fall, but which would ordinarily be discarded may be kept through the fall months.

From the viewpoint of the New York Market, it is not desirable to have cows freshen in January and February because there is a surplus of milk beginning in January or February. In these months the costs of production are high, and milk prices are too high to justify manufacturing. By delaying the breeding of cows that would freshen in these months, a larger supply of milk can be obtained in the fall.

The amount of increased production that can be obtained by these means is very limited. If the fall supply in future years is to be sufficient to meet the needs, more cows must freshen in the late summer and early fall. In recent years, the prices of milk in the fall have not been so high as formerly, when compared with summer prices. The growing shortage of milk in the fall may be expected sooner or later to result in higher prices in these months. It would seem desirable for more farmers to anticipate this condition and shift the season of production. No one can guarantee what the price of milk will be in the fall of 1930, 1931, and later, but in general, the man who plans to meet an economic need is likely to receive a price reward for his effort. More fall milk is needed and still more will be needed in later years.

G. F. Warren and F. A. Pearson

NEW YORK MILK SUPPLY SITUATION

The work reported here is part of a study of the New York milk supply which is being made by the New York State College of Agriculture in Cooperation with the New York Central Railroad

The increasing demand for milk and cream in New York City has brought about an acute situation in the November supply of milk from approved sources.[1] Shortages were avoided in 1925, 1926, and 1927 only by increasing the available supplies in the following ways:—

1. Frozen cream that had been stored during the flush-production season was used to supplement the fresh product.
2. A number of new plants were established in the milk shed.
3. There was further diversion of milk that had previously been manufactured.

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[1] Farm Economics No. 50, p. 852, Jan. 1928.

4. Some approved milk that had been going to other markets was diverted to New York City.

5. The production of milk per dairy was stimulated by price increases and by educational work as to the market situation.

In the fall of 1928, the same procedure was followed in so far as the first four methods of getting more milk were concerned. The fifth method, however, failed. Despite fairly good fall prices and renewed appeals to dairymen to increase production, the amount of milk delivered daily per dairy in November, 1928 was 1.7 pounds below 1927 (table 1). During a part of the month the decrease was greater. The result was an actual shortage of milk in New York City. For about ten days during the latter part of November, some milk distributors were forced to limit their retail and wholesale sales because they did not have sufficient milk and cream to meet the demand.

TABLE 1. AVERAGE DAILY PRODUCTION OF MILK PER DAIRY IN JUNE AND NOVEMBER, 1922 to 1928
(Deliveries to 249 approved plants)*

Year	June		November		
	Dairies	Pounds	Dairies	Pounds	Per cent of June milk
1922	14,774	282.8	15,023	169.8	60
1923	15,085	309.4	14,732	189.9	61
1924	15,031	314.6	15,271	183.7	58
1925	15,797	335.2	15,589	189.9	57
1926	16,052	351.0	15,914	196.9	56
1927	15,918	351.4	16,320	197.5	56
1928	15,986	347.8	16,044	195.8	56

*Data obtained through the courtesy of New York milk dealers and the Dairymens League Cooperative Association, Inc.

Three explanations of this decreased production which have been advanced are:

1. That the unusually early cut in the price of Class 1 milk last spring, discouraged dairymen to such an extent that they failed to keep their cows in good condition during the summer, with a resulting low yield of milk in November.

2. That the rainy season last year delayed haying and resulted in unusually poor quality roughage.

3. That the low prices of milk during period 1921 to 1924 are now reflected in a shortage of cows.

Regardless of what caused the low production in November, 1928, it is obvious that fall prices have not been sufficiently high in recent years to encourage farmers to breed more cows for fall freshening, while prices have been sufficiently high at other seasons to obtain abundant supplies of milk. As a dairy region comes under the influence of a city market there is a tendency for winter dairying to increase. This normal trend has been checked in the New York milk shed because of the changed relation of winter and summer prices.

From 1922 to 1927, the average production increased rather steadily but no progress was made toward a better seasonal adjustment of production (figure 1). By stimulation of production during the entire year, more milk was obtained in November, but for each additional can so obtained, approximately two and one-half cans were added to the June surplus (figure 2).

It is estimated that a daily supply of from 7,000 to 10,000 cans in excess of the November, 1928 production will be needed to meet the November, 1929 requirements. On the basis of 55,000 approved dairies in the New

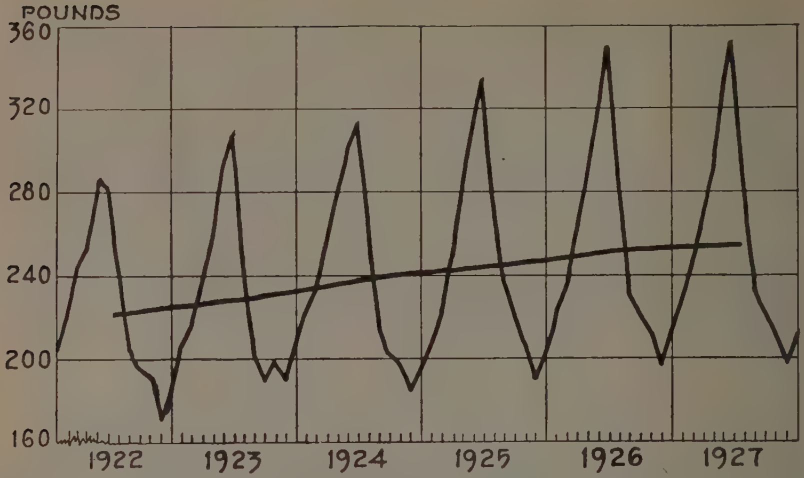

FIGURE 1.—AVERAGE DAILY PRODUCTION PER DAIRY, 15,151 APPROVED DAIRIES, 245 APPROVED PLANTS, 1922 to 1927
Production increased steadily from 1922 to 1927 but June production increased faster than November.

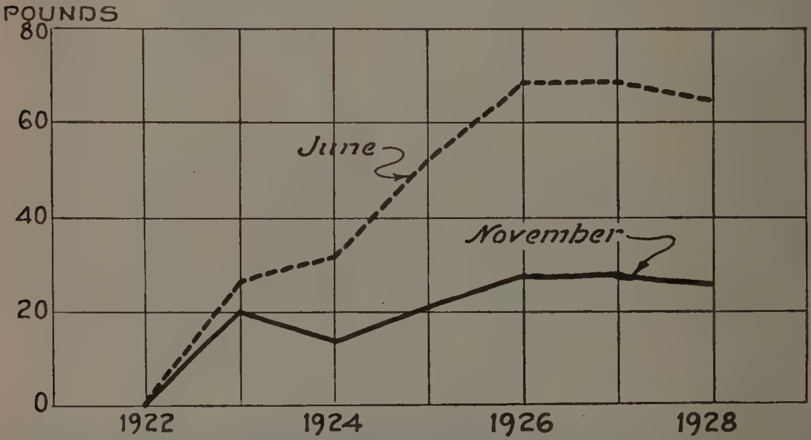

FIGURE 2.—INCREASE OVER 1922 IN AVERAGE DAILY PRODUCTION PER DAIRY, 15,538 APPROVED DAIRIES, 249 APPROVED PLANTS
More milk has been obtained in November, but for each can of November milk, approximately two and one-half cans were added to the June surplus.

York milk shed, this means an increase of from 11 to 15 pounds per day per dairy. Such an increase is not at all impossible but to obtain it will require greater effort and more effective measures than have been employed in the past. If the effort is successful, the New York milk shed will still be faced with the necessity of making some seasonal adjustment of production if the market is to be supplied without bringing in western cream. A price policy is needed which will encourage dairymen to breed enough cows for fall freshening to just supply the fall demand without causing a surplus at that season.

H. A. Ross.

CHANGES IN THE SEASONAL SCALE OF MILK PRICES

The average monthly prices received by farmers for milk sold to New York dealers during three five-year periods, 1897-1901, 1910-14, and 1924-28 and for the period 1897 to 1913, are given in table 1.

TABLE 1. AVERAGE MONTHLY PRICES TO PRODUCERS FOR 3.7 PER CENT MILK UTICA FREIGHT ZONE BASIS.*

Month	1897-1913	1897-1901	1910-1914	1924-1928
January	$1.64	$1.34	$1.90	$2.63
February	1.57	1.28	1.82	2.55
March	1.43	1.16	1.68	2.44
April	1.29	1.06	1.46	2.31
May	1.06	0.87	1.19	2.09
June	0.87	0.67	1.07	2.00
July	1.03	0.85	1.26	2.12
August	1.19	0.97	1.51	2.36
September	1.35	1.17	1.59	2.56
October	1.50	1.23	1.79	2.63
November	1.62	1.33	1.88	2.83
December	1.67	1.37	1.91	2.86
Year	$1.35	$1.11	$1.59	$2.45

*Computed from prices published in Farm Economics number 35, page 490, and subsequent issues of Farm Economics.

The average yearly price increased from $1.11 for the period 1897-1901 to $2.45 for the period 1924-1928. This is an increase of 120 per cent. The December price increased 109 per cent, and the June price 199 per cent.

Relative monthly prices, with the average price for the five-year period in each case being taken as 100, are given in table 2.

The relative monthly prices for the two periods 1910-14 and 1924-28 are shown graphically in figure 1. In recent years the prices for the months of May, June and July have been relatively much higher, and prices for the months from October to March inclusive have been relatively lower than the prices which prevailed before the war. These changes in the seasonal scale of prices tend to prevent or retard the increase in production of fall and winter milk which is needed to supply New York and other city markets.[1]

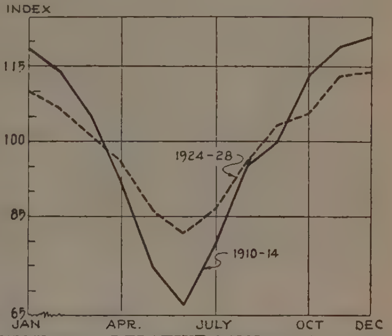

FIGURE 1. RELATIVE MONTHLY PRICES RECEIVED FOR MILK BY NEW YORK DAIRYMEN.

The prices received by New York dairymen during the past five years were relatively higher in summer, and relatively lower in winter than the prices received during the years, 1910-1914.

TABLE 2. INDEX NUMBERS OF SEASONAL VARIATION IN MILK PRICES.*

	1897-1913	1897-1901	1910-1914	1924-1928
January	123.0	122.4	118.8	110.1
February	115.7	116.7	114.0	106.4
March	105.4	105.7	105.3	101.4
April	96.1	96.4	91.6	95.6
May	77.9	79.0	74.7	86.1
June	64.7	60.6	67.3	81.9
July	77.0	76.5	79.4	86.4
August	86.3	87.1	95.3	95.7
September	102.0	104.9	100.5	103.3
October	110.2	110.0	113.2	105.7
November	119.2	118.7	119.0	113.4
December	112.9	122.0	120.9	114.0

*Corrected for trend.

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[1] Page 1042-44.

LELAND SPENCER.

ROADS IN NEW YORK STATE

Some of the most important questions for consideration in New York State are, the reforestation of lands not suitable for farming and the high development of the land that is to remain in farms.

Some of the most important immediate steps in the development of farms are, a large increase in the miles of hard-surfaced roads, extension of electric lines for light and power, provision for hospital and medical service, improved rural schools, and equalization in taxation.

None of these are merely farm problems. They are problems of state development that concern all the citizens. The State cannot afford to import large quantities of lumber at great cost, and see its wood-working industries move to other states, when there are several million acres of idle land that are excellently adapted to forests, about one-third of which is already in woodlots which might be made productive quickly. Considerable of the poor land is still occupied, but at great loss to the State and to the people who are wasting their time on it.

One of the leading problems for discussion this winter is the road question. The following facts concerning roads are presented so that they may be used at Grange meetings and in other discussion groups.

The road problem is not just a farm problem. Tallies on many roads in the rural counties indicate that the farm travel is about five per cent of the travel on the stone roads of New York State, and about one quarter of the travel on dirt roads.

The data on road mileage and present means of support were furnished by the Division of Highways and the Department of Taxation and Finance.

Miles of Road in the State

There are about 80,116 miles of public highway in New York; of this, 23,403 miles are hard-surfaced. Only about 11,044 miles, or 14 per cent of all the highways are in the state system, which includes state highways and state and county highways. There are 49,826 miles of dirt road, or 62 per cent of the total mileage.

The sudden development of the truck and automobile has made a need for a much greater amount of hard-surfaced roads than has been provided. That the localities have felt this need is indicated by the fact that more than half of the hard-surfaced roads are outside the state system.

Most of the roads built by the localities are used more by other counties than by the counties or towns that built them. Roads were once purely local. The use of roads has widened more rapidly than has the support.

If the state, counties, and other agencies reforest the abandoned farm land and some of the occupied farms that ought to be abandoned, some of the dirt roads can be closed. But many of them will need to be kept open for fire lanes, lumbering operations, and for use in the summer to make the forest areas accessible for recreation.

Most of the roads in regions which are worth continuing as farming areas should be hard surfaced in the near future. A few counties are approaching this standard. All the roads in Orleans County are hard surfaced except 102 miles which are graveled, and 20 miles of dirt.

TABLE 1. MILES OF HIGHWAY IN NEW YORK STATE

County	State system built or under contract			Other Highways				Total			
	Hard surface	Gravel*	Total	Hard surface	Gravel	Dirt	Total	Hard surface	Gravel	Dirt	Total
Albany	218	5	223	151	40	686	877	369	45	686	1100
Allegany	190	5	195	58	46	1595	1699	248	51	1595	1893
Broome	192		192	111	—	1134	1245	303	—	1134	1437
Cattaraugus	199		199	142	13	1620	1775	341	13	1620	1974
Cayuga	211		211	277	163	839	1279	488	163	839	1490
Chautauqua	250		250	149	18	1544	1711	399	18	1544	1961
Chemung	103		103	49	16	707	772	152	16	707	875
Chenango	220		220	127	14	1385	1526	347	14	1385	1746
Clinton	188		188	52	107	1037	1196	240	107	1037	1384
Columbia	146	5	151	39	129	1059	1227	185	134	1059	1378
Cortland	131		131	107	—	799	906	238	—	799	1037
Delaware	235	24	259	118	1	1980	2099	353	25	1980	2358
Dutchess	235		235	57	410	915	1382	292	410	915	1617
Erie	418		418	1197	30	687	1914	1615	30	687	2332
Essex	230	19	249	27	241	774	1042	257	260	774	1291
Franklin	213	7	220	250	210	698	1158	463	217	698	1378
Fulton	120		120	22	28	592	642	142	28	592	762
Genesee	132		132	233	404	151	788	365	404	151	920
Greene	140	8	148	74	75	765	914	214	83	765	1062
Hamilton	151		151	—	12	298	310	151	12	298	461
Herkimer	212		212	212	37	1029	1278	424	37	1029	1490
Jefferson	323		323	756	224	901	1881	1079	224	901	2205
Lewis	124		124	135	—	1190	1325	259	—	1190	1449
Livingston	180	1	181	70	408	626	1104	250	409	626	1285
Madison	154		154	185	—	1083	1268	339	—	1083	1422
Monroe	337	9	346	574	175	273	1022	911	184	273	1368
Montgomery	146		146	107	17	579	703	253	17	579	849
Nassau	98		98	488	695	210	1393	586	695	210	1491
Niagara	179		179	472	57	225	754	651	57	225	933
Oneida	352		352	375	139	1451	1965	727	139	1451	2317
Onondaga	268		268	306	219	829	1354	574	219	829	1622
Ontario	192	11	203	155	212	778	1145	347	223	778	1348
Orange	293	20	313	128	1045	110	1283	421	1065	110	1596
Orleans	127		127	471	102	20	593	598	102	20	720
Oswego	206	5	211	343	284	876	1503	549	289	876	1714
Otsego	208		208	149	34	1762	1945	357	34	1762	2153
Putnam	83		83	42	121	264	427	125	121	264	510
Rensselaer	214	20	234	37	89	956	1082	251	109	956	1316
Rockland	87		87	276	18	5	299	363	18	5	386
St. Lawrence	430	2	432	1355	42	1270	2667	1785	44	1270	3099
Saratoga	205		205	50	328	935	1313	255	328	935	1518
Schenectady	107		107	46	50	223	319	153	50	223	426
Schoharie	133		133	61	116	949	1126	194	116	949	1259
Schuyler	89	3	92	53	—	617	670	142	3	617	762
Seneca	105		105	38	6	555	599	143	6	555	704
Steuben	276	15	291	254	16	2533	2803	530	31	2533	3094
Suffolk	246	3	249	1099	—	605	1704	1345	3	605	1953
Sullivan	141		141	143	4	1613	1760	284	4	1613	1901
Tioga	94	6	100	72	4	891	967	166	10	891	1067
Tompkins	147		147	105	17	822	944	252	17	822	1091
Ulster	221		221	159	10	1458	1627	380	10	1458	1848
Warren	115	16	131	30	14	835	879	145	30	835	1010
Washington	173		173	36	66	1258	1360	209	66	1258	1533
Wayne	156	1	157	97	104	989	1190	253	105	989	1347
Westchester	282		282	255	40	443	738	537	40	443	1020
Wyoming	140	5	145	136	—	795	931	276	5	795	1076
Yates	80		80	38	48	603	689	118	48	603	769
Kings, Queens	9		9	—	—	—	—	9	—	—	9
Total	10,854	190	11,044	12,548	6,698	49,826	69,072	23,402	6,888	49,826	80,116

*Some of the gravel roads require additional funds for completion.
Mileage in the state system is given to the nearest even mile.

Types of Roads on which Farms are Located

According to the United States census of January 1, 1925, 29 per cent of the New York State farms were located on hard-surfaced roads, 9 per cent on gravel roads, and 59 per cent on dirt roads (table 2). In 19 counties, from 70 to 80 per cent of the farms were on dirt roads.

TABLE 2. TYPES OF ROADS ON WHICH NEW YORK STATE FARMS WERE LOCATED, JANUARY 1, 1925

Type of road	Number of farms	Per cent
Hard-surfaced roads	54,989	29
Gravel roads	16,767	9
Dirt roads	111,832	59
Not reported	5,166	3
Total	188,754	100

Use of Roads

Studies of the use of roads were made by Dr. Tennant in the summer and fall of 1926 and 1927. A few preliminary results were published in Farm Economics, Number 46. His bulletin on this subject was completed last year, but owing to the lack of funds, will not be printed for some time. A brief summary of the results is here given. At each place where road tallies were made, the license numbers of the vehicles were recorded. The vehicles were classified from records in the local registration offices, the state census records, through the aid of the post-offices, and from records in the Bureau of Motor Vehicles. Tallies were made on main roads, on town roads, heavily used dirt roads, and on dirt roads that were little used. They were made on all days of the week.

To obtain more data, a questionnaire was sent to farm bureau committeemen in the State. Replies were received from 462 farmers. Tallies were made by them for 77 roads.

Most of the tallies made by the College of Agriculture were in the counties west of Utica. They do not include any tallies near New York City or Buffalo. Most of the tallies made by farmers were also west of Utica but included more counties near large cities. The percentage of city travel is in both cases considerably less than the total for the State.

Tallies made on 51 stone roads by the College of Agriculture indicate that 39 per cent of the travel originated within the county; 46 per cent from other New York counties; 11.5 per cent from other states. Tallies made by farmers showed a slightly higher percentage of out-of-state travel. In both cases, state roads and town roads were included.

TABLE 3. PERCENTAGE DISTRIBUTION OF TRAVEL ON HARD-SURFACED ROADS, 1926-27

	Tallies made by College of Agriculture, 51 roads in 13 counties	Tallies made by farmers, 37 roads in 18 counties
	Per cent	Per cent
Out-of-State	11.5	15.4
Other New York counties	46.0	45.8
County	39.2	36.5
Taxi, bus, and the like	2.4	1.7
Horse	0.8	0.6
Not classified	0.1	
Total	100	100

Of the travel on 57 dirt roads in New York State, 2 per cent came from other states and 23 per cent from other counties in New York. Tallies made by farmers on 32 dirt roads indicate that 7 per cent came from other states and 31 per cent from other counties in New York State.

One of the striking points in both tables is the very limited amount of horse travel. On the hard-surfaced roads, less than one per cent was horse-drawn vehicles. On two main highways in Rensselaer County, one vehicle in five hundred was horse drawn. On dirt roads, horse travel comprised from six to nine per cent of the total travel. Even the dirt roads are primarily motor-vehicle roads. The horse has so largely disappeared from the public roads that all road construction should be designed for motor vehicles. As rapidly as the roads are improved, the percentage of horse travel will be even less.

TABLE 4. PERCENTAGE DISTRIBUTION OF TRAVEL ON DIRT ROADS IN NEW YORK STATE, 1926-27

	Tallies made by College of Agriculture, 57 roads in 12 counties	Tallies made by farmers, 32 roads in 20 counties
	Per cent	Per cent
Out-of-State	2.1	7.0
Other New York counties	23.0	30.7
County	64.5	55.3
Taxi, bus, and the like	1.4	1.2
Horse	8.8	5.8
Not listed	0.2	
Total	100	100

TABLE 5. ORIGIN OF COUNTY TRAVEL ON 41 STATE ROADS IN 13 NEW YORK COUNTIES, 1926-27.

Roads were located as follows: Wayne Co., 3; Ontario, 3; Seneca, 5; Tompkins, 11; Cortland, 4; Schuyler, 1; Chemung, 3; Broome, 1; Otsego, 4; Schoharie, 1; Schenectady, 1; Albany, 2; and Rensselaer, 2.

	Per cent
County travel	
City	18.7
Incorporated village	8.2
Unincorporated village	3.1
Open country, not farm	4.1
Farm	4.6
Horse	0.7
Taxi, bus and the like	2.5
Other New York counties	46.3
Out-of-State	11.8
Total	100

Classification of County Travel

On 41 state roads in 13 counties, 19 per cent of the travel was from cities within the county, 8 per cent from incorporated villages, and 7 per cent from unincorporated villages and open country. Only 5 per cent was farm motor and horse-drawn vehicles combined.

On ten town and county stone roads in Tompkins and Cortland counties, 25 per cent of the travel came from cities and incorporated villages in the county, 41 per cent came from other counties or other states. Farm motor and all horse travel combined amounted to 13 per cent.

On 57 dirt roads, 28 per cent of the travel was from cities and villages within the county, and only 26 per cent was farm and all horse travel combined (table 7). Even the dirt roads are primarily used for urban travel. The fact that a dirt road is little used does not mean that it would not be used if it were a stone road.

TABLE 6. ORIGIN OF COUNTY TRAVEL ON 10 TOWN AND COUNTY ROADS, CORTLAND AND TOMPKINS COUNTIES, 1926-27

	Per cent
County travel	
City	17.7
Incorporated village	7.0
Unincorporated village	9.1
Open country, not farm	10.2
Farm	8.7
Horse	4.6
Taxi, bus, and the like	1.7
Other New York counties	35.6
Out-of-State	5.4
Total	100

TABLE 7. ORIGIN OF COUNTY TRAVEL ON 57 DIRT ROADS IN 12 NEW YORK COUNTIES, 1926-27

Roads were located as follows: Wayne Co., 1; Livingston, 8; Ontario, 1, Seneca, 1; Tompkins, 22; Cortland 7; Onondaga, 12; Schuyler, 1; Broome, 1; Schoharie, 1; Schenectady, 1; and Rensselaer, 1.

	Per cent
County travel	
City	15.9
Incorporated village	11.8
Unincorporated village	8.1
Open country, not farm	11.6
Farm	17.1
Horses	8.8
Taxi, bus, and the like	1.6
Other New York counties	23.0
Out-of-State	2.1
Total	100

City and Other Travel

The travel on ten hard-surfaced roads was classified as city and other travel. Of the New York State vehicles travelling on these roads, 82 per cent came from cities and incorporated villages. Farm motor vehicles and all horse travel combined made less than 4 per cent of the total. The travel from unincorporated places other than farm made 14 per cent of the New York travel (table 8). The percentage of city use would, of course, be much higher if tallies near New York City and Buffalo had been included.

TABLE 8. TRAVEL ON 10 HARD-SURFACED ROADS CLASSIFIED AS CITY AND OTHER TRAVEL, 1926-27*

8 roads in Seneca, Tompkins, Schuyler, and Chemung Counties, and 2 roads in Rensselaer County.

	Per cent of total travel	Per cent of New York travel
Other states	16.5	——
City and incorporated villages	68.7	82.3
Farms within county and all horse	3.2	3.8
Other unincorporated	11.6	13.9
Total	100	100

*The 2.3 per cent of taxi, bus, etc. is added to the city travel.

At the Lehigh Valley railroad crossing in Cayuta Township, Schuyler county, counts were made on two days. On each of these days, the number of vehicles from Onondaga county were ten times those from Cayuta township, and more than the travel from Schuyler county. During each day, more vehicles from New York City and Brooklyn passed than from Cayuta township. Vehicles from Erie county were also more numerous than those from the local township.

In Seneca county, two miles southeast of Geneva, counts were made on two days. On each of these days, there were about twice as many cars from New York City and Brooklyn as there were from the township. There were several times as many from Erie and Onondaga counties, and about twice as many from Monroe county, as there were from the township. The metropolitan counties, Westchester, Erie, Monroe, Onondaga, Albany, and New York and Brooklyn, furnished 20 per cent of the total travel. Seneca county furnished 18 per cent of the total travel.

In Rensselaer county, records were taken on State Highway No. 5 from Albany to Pittsfield and State Highway No. 6 from Albany to New York City. On each road, tallies were made on two successive days in October 1926. The travel on these roads averaged 154 vehicles per hour. Of the total travel, 21 per cent came from other states. This was nearly twice as much as the travel from Rensselaer county. For every vehicle from the township, 24 came from other states. Of the travel originating in New York State, 85 per cent came from cities and incorporated villages. Of the New York State travel, 44 per cent came from New York and Brooklyn, and the counties of Westchester, Erie, Monroe, Onondaga, and Albany.

The Ohio Transport Survey made an extensive study of the use of roads in Ohio in 1925. They had almost exactly the same mileage of state roads that New York has. They found that 86 per cent of the motor vehicle travel on state highways came from cities, and 14 per cent from the country.[1]

It is often said that the cities will pay most of the gasoline tax. This is true. They will also do most of the travelling, even on the dirt roads.

Travel by Taxation Divisions

On 41 state roads, 7 per cent of the total travel came from the unincorporated part of the township, 8 per cent from cities and villages, and 26 per cent from other townships of the county. The remaining 59 per cent of the travel came from other states and other counties in New York State (table 9).

TABLE 9. TRAVEL BY TAXATION DIVISIONS, 41 STATE ROADS IN 13 NEW YORK COUNTIES, 1926-27

	Per cent of total travel	Per cent of New York travel
Other states	11.8	——
County		
Township*	6.9	7.8
City and village in township	8.0	9.1
Other township and cities of the county	25.8	29.2
Other Counties of New York State	47.5	53.9
Total	100	100

*The 0.7 per cent of horse travel is added to the township travel.

The 2.4 per cent taxi, bus, motor cycles, auto dealer, and the like, is divided equally between the county and the other New York counties.

On 10 town and county stone roads in Cortland and Tompkins counties, 23 per cent of the travel came from unincorporated parts of the township, 7 per cent from cities and villages in the township, and 29 per cent from other townships of the county. The remaining 42 per cent came from other states and other counties of New York State (table 10).

TABLE 10. TRAVEL BY TAXATION DIVISIONS, 10 COUNTY AND TOWN STONE ROADS IN TOMPKINS AND CORTLAND COUNTIES, 1926-27

	Per cent of total travel	Per cent of New York travel
Other states	5.4	——
County		
Township*	22.7	24.0
City and village in township	6.6	7.0
Other townships and cities of the county	28.7	30.3
Other counties of New York State	36.6	38.7
Total	100	100

*The 4.6 per cent of horse travel is added to the township travel.

The 1.7 per cent taxi, bus, motor cycle, auto dealer, and the like is divided equally between the county and other New York counties.

On 57 dirt roads, 36 per cent of the travel came from unincorporated parts of the township, 10 per cent from cities and villages in the township, and 29 per cent from other townships of the county. The remaining 26 per cent of the travel came from other states and other counties in New York State (table 11).

The use of roads is much wider than the base of their tax support. This is particularly true for the town and county stone roads and for dirt roads.

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[1] Bimonthly Bulletin. Ohio Agricultural Experiment Station, No. 129, p. 193.

TABLE 11. TRAVEL BY TAXATION DIVISIONS, 57 DIRT ROADS IN 12 NEW YORK COUNTIES, 1926-27

	Per cent of total travel	Per cent of New York travel
Other states	2.1	——
County		
Township*	35.8	36.6
City and village in township	9.7	9.9
Other township and cities of the county	28.7	29.3
Other counties of New York State	23.7	24.2
Total	100	100

*The 8.8 per cent of horse travel is added to the township travel.

The 1.4 per cent of taxi, bus, motor cycle, auto dealer, and the like is divided equally between the county and other New York counties.

Effect of Stone Roads on Agriculture

Farmers on stone roads reported innumerable changes that they had made because of the type of road. Some increased the milk production; some changed from manufacturing to Grade B milk; others changed from Grade B to Grade A; some increased the acreage of canning-factory and other cash crops; and some increased the amount of poultry kept. More tile drains were laid and more fertilizer used. Buildings and grounds were improved. Some took in tourists. More trucks, autos, and tractors were used. More members of the family remained on the farm to work. More milk was produced in the winter months.

Other advantages of good roads were that fewer horses needed to be kept, and those kept were shod less. Mail was delivered more regularly. Doctors and educational and social facilities were more available. It was easier to keep help. Motor vehicles cost less for maintenance.

The most important use resulting from stone roads is in the field of marketing. Many farmers mentioned the advantage of being able to sell when they desired rather than have to sell in the fall before roads became impassable. On a stone road, it is possible to hire the milk, feed, and other products hauled so that the farmer can work on the farm. It is often possible to sell to buyers who come to the door for the product. Full loads can be hauled nearly all the year. Trips to town can be made on rainy days. Since hauling can be done any time, it is possible to order fertilizer, or agree to ship on definite dates, and so plan the work systematically.

A few contrasts are shown in table 12. The farmers on good roads

TABLE 12. EFFECT OF ROADS ON AGRICULTURE

	Type of road		
	Stone	Gravel	Dirt
Number of farms reporting	174	60	212
Number of persons working on farms:			
Male	2.75	2.68	2.41
Female	2.19	2.30	1.95
Number of persons living on farms and working elsewhere:			
Male	0.25	0.21	0.13
Female	0.14	0.08	0.07
Number of farms on which mail failed to be delivered on 10 days or more in the year	3	4	56
Per cent of farmers owning automobiles	95	95	89
Miles automobiles were driven	3800	3643	2700
Per cent of farmers owning trucks	61	62	53
Miles trucks were driven	2600	3000	1875
Per cent of farmers owning tractors	52	45	38
Cans of milk produced per day:			
Summer	4.9	3.7	4.5
Winter	4.8	3.6	3.5
Per cent of farms located on milk-truck routes	52	37	26

drove their trucks and automobiles about 1,000 miles more per year than those on dirt roads. A high milk production in the fall is very important for the State. Those on good roads produced more milk than those on dirt roads, and produced a practically uniform amount throughout the year. Those on dirt roads produced one can a day more in summer than in winter.

Value of Hard-Surfaced Roads

One-hundred-eighteen farmers who lived on hard-surfaced roads gave the values of their farms and the estimated values if the farms were moved one mile from the stone roads. One-hundred-ninety-three farmers who lived on dirt and gravel roads estimated the increased value that would accrue if the farms were on stone roads.

TABLE 13. ESTIMATES BY FARMERS LIVING ON HARD-SURFACED ROADS OF DECREASE IN VALUE IF FARMS WERE REMOVED ONE MILE FROM SUCH ROAD

Value of farm per acre	Number of farms	Average value per acre*	Estimated* decrease in value per acre	Percentage decrease
Less than $50	19	$ 40.00	$ 7.70	19.3
$ 50-$ 99	40	70.33	15.40	21.9
$100-$149	28	126.16	18.20	15.0
$150-$249	17	185.00	42.50	23.0
$250 and over	14	425.50	90.00	21.1
All farms	118	$100.00	$17.82	17.8

Farmers who lived on hard-surfaced roads and whose farms were valued at $40 per acre, estimated that the value would be decreased $8 per acre if their farms were removed one mile from the stone road. Those whose farms were worth $425 per acre, estimated that the value would be decreased $90 if removed one mile from the stone road. In most cases, about a 20 per cent decrease in value was estimated.

TABLE 14. ESTIMATES BY FARMERS LIVING ON GRAVEL AND DIRT ROADS OF INCREASE IN VALUE IF FARMS WERE ON STONE ROADS

Value farm per acre	Number of farms	Average value per acre*	Estimated* increase in value per acre	Percentage increase
Less than $50	91	$ 30.83	$12.12	39.3
$ 50-$ 99	58	68.00	16.80	24.7
$100-$149	21	120.00	22.86	19.1
$150-$199	8	175.00	32.50	18.6
$200 and over	15	426.50	100.00	23.4
All farms	193	$ 55.20	$15.18	27.5

*Median.

The following are some estimates of the values of roads in other states: In Blue Earth County, Minnesota, farms on state gravelled roads, all other things equal, were worth $22 per acre more than farms on dirt roads. In Chester County, Pennsylvania, farms on gravelled, or broken stone roads, were worth $15 per acre more than the same kind of farms on dirt roads; and farms on concrete, or other hard-surfaced roads, were worth $31 more than on dirt roads.[1]

The value of hard-surfaced roads to farmers is much more than the differences in land prices would indicate, because differences in the prices per acre at which farms sell are much less than the differences in values for use. Poor farms usually sell for more than they are worth for use when, compared with good farms.

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[1] Wiecking, E. H., The relationship of farm buildings and improved roads to land values. United States Department of Agriculture, Bureau of Agricultural Economics, mimeograph report, p. 10, 1928.

SUPPORT OF HIGHWAYS

It is impossible to give a complete statement of the support of highways in a few pages. The major features of the present system are here given, but there are many exceptions and other provisons which cannot be mentioned in a brief space. If a thorough discussion is to be given at a farmers' meeting, a copy of the highway laws should be available.

Registration Fees

The counties receive 25 per cent of the money paid for motor vehicles registered in the county. This money is used for construction and maintenance of improved roads. The portion for New York counties is paid directly to the city government. The details are given in section 309 of the Highway Law.

The motor vehicle fees from December 1927 to November 1928 were as follows:

Retained by the State	$25,763,775[1]
Returned to New York City	3,323,099
Returned to Counties	5,191,129
Total	34,278,003

Lowman Act

Under this act, each county receives from the State $30 per mile of highway. There is a provision that the county shall raise an equal sum, but since the counties are spending so much on roads, this limitation is usually of no effect. This act has been a great stimulus to the construction of lateral roads (section 320-b).

Under this act, the counties received a total of $2,392,230 in 1928.

Township Roads

Under section 101 of the highway law, each town receives a variable amount, depending on the assessed valuation per mile of highway, provided the town raises a specified amount. The poorer towns are limited to $25 per mile. The richer ones receive one-tenth of one per cent of the assessed valuation per mile of highway. There is no upper limit. A few towns receive over $500 per mile, but 544 towns receive $30 or less. The law was first passed in 1898, and has been practically unchanged for 20 years. Maintenance costs are much more than they were 20 years ago and roads are more heavily used, so that the poorer towns are receiving a smaller share of the road cost than was intended. Values have so increased in the wealthy towns that they receive much more than was anticipated.

Apparently every one agrees that the law should be amended. The amount of state aid is now over three million dollars and may approximate $3,400,000 next year, or about $50 per mile of highway outside the state system. The amount will steadily rise unless the law is amended.

One proposal for amending this law is that the State pay to each town $50 per mile of highway outside the state system, provided the town raises either $50 per mile, or raises a 3 mill tax on the equalized valuation as equalized for state purposes.

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[1] The State figure includes $221,075 collected from non residents, no part of which is returned to counties.

Highways in the State System

On all highways in the state system, the counties pay for the right-of-ways, snow removal, some other costs, and pay 35 per cent of the cost of bridges, even though the State may build the road, (Section 250-a).

The township pays the state $50 per mile for the maintenance of such highways within the town. Each incorporated village pays 1.5 cents per square yard for maintenance (Section 172).

Some of the highways in the state system are built jointly by the State and Federal government; some are built by the State, but in each case the localities contribute the amounts stated in the first paragraph above.

Some highways are built at the joint expense of the State and county. The county then pays 35 per cent of the cost of construction, in addition to the amounts stated in the first paragraph above. (Section 141).

Payments to and from the State

The payments which the State makes to localities and some of the payments by localities for the state system are shown in table 15.

It is estimated that it will cost about $54,000,000 to complete the state highway system and $37,000,000 to complete the bridges in the system, or a total expenditure of about $91,000,000 in ten years. Of course, it is not possible to state exactly what the cost will be, but the estimates are undoubtedly accurate enough to give a correct impression of the situation.

The approximate average amount to be raised by counties in addition to right-of-ways would be about $9,100,000 per year. In addition to this the townships now pay the State over $571,000 for maintenance of state roads. The total payments from localities to the State will, therefore, be expected to average about $9,700,000 per year in addition to costs of right-of-ways, etc.

At present, the State returns to the counties $5,191,000 from registration fees, $2,292,000 under the Lowman act, and pays the towns $3,098,000. This latter figure will be considerably higher next year, if the law is not amended. This is a total payment to the localities of nearly $10,700,000. Under the present system, the State will therefore return to localities a net amount of about a million dollars a year. When the costs of right-of-ways are included, the counties on the average have to spend much more on the state system than they receive from the State, and in addition maintain 69 of the 80 thousand miles of road in the State.

The situation in individual counties is very different from the situation in the State as a whole. To complete the state system it is estimated that it will cost Schoharie county $1,226,000. If the system is completed in ten years, this will average $122,600 per year. The amount to be paid in any given year would be more or less than this depending on when the work was done. In addition, the towns of the county pay the State $6,759 for maintaining state roads, or Schoharie county would pay the State an average of about $129,359 per year and receive from the State $89,201. It would then have to raise all the money for maintaining the 1126 miles of road outside the state system, and in addition, raise $40,000 per year for the state system, besides paying for right-of-ways, etc.

TABLE 15.—PAYMENTS BY THE STATE TO LOCALITIES AND PAYMENTS BY LOCALITIES TO THE STATE

County	Payments by localities to State			Payment by State to localities						Net payment by locality to State		Net payment by State to locality	
	Approximate cost to complete state system		Payments by towns for maintenance of state highways	One-tenth of highways and bridges plus maintenance	Counties share registration fees	Payment to counties $30 per mile (Sec. 320-b)	Payment to towns (Sec. 101)	Total	Total per mile all highways	Total	Per mile of highway outside the state system	Total	Per mile of highway outside the state system
	Highways	Bridges											
Albany	$404,000	$646,000	$11,886	$116,886	$169,926	$32,970	$58,642	$261,538	238	—	—	$144,652	$165
Allegany	892,000	1,124,000	10,470	212,070	38,831	56,820	50,263	145,914	77	$66,156	$39	—	—
Broome	479,000	1,082,000	10,135	166,235	120,486	43,110	45,775	209,371	146	—	—	43,136	35
Cattaruagus	1,134,000	1,116,000	9,810	234,810	65,872	59,250	50,955	176,077	89	58,733	33	—	—
Cayuga	1,400,000	373,000	10,409	187,709	55,371	44,700	36,575	136,646	92	51,063	40	—	—
Chautauqua	1,007,000	704,000	11,935	183,035	11,912	58,830	65,750	236,492	121	—	—	53,457	31
Chemung	354,000	441,000	5,755	85,255	62,883	26,250	25,032	114,165	130	—	—	28,910	37
Chenango	504,000	943,000	11,035	155,735	39,209	52,380	43,646	135,235	77	20,500	13	—	—
Clinton	737,000	486,000	9,994	132,294	36,367	41,520	28,554	106,441	77	25,853	22	—	—
Columbia	2,446,000	508,000	7,769	305,169	42,853	41,370	38,911	123,134	89	182,035	148	—	—
Cortland	747,000	453,000	6,339	126,339	32,743	31,110	25,925	89,778	87	36,561	40	—	—
Delaware	1,523,000	1,010,000	12,421	265,721	44,895	70,740	58,075	173,710	74	92,011	44	—	—
Dutchess	1,411,000	512,000	11,931	204,231	94,671	48,510	61,206	204,387	126	—	—	156	0
Erie	901,000	1,548,000	22,954	267,854	627,961	63,390	181,267	872,618	374	—	—	604,764	316
Essex	933,000	565,000	10,982	160,782	29,993	38,730	35,860	104,583	81	56,199	54	—	—
Franklin	1,531,000	565,000	11,340	220,940	38,309	41,310	37,496	117,115	85	103,825	90	—	—
Fulton	314,000	325,000	5,758	69,658	43,011	22,860	17,011	82,882	109	—	—	13,224	21
Genessee	1,197,000	258,000	6,390	151,890	45,955	27,600	32,317	105,872	115	46,018	58	—	—
Greene	759,000	507,000	7,193	133,793	31,131	31,860	30,003	92,994	88	40,799	45	—	—
Hamilton	443,000	453,000	5,624	95,224	4,036	13,830	13,573	31,439	68	63,785	206	—	—
Herkimer	616,000	1,185,000	12,240	192,340	52,670	44,700	43,305	140,675	94	51,665	40	—	—
Jefferson	959,000	978,000	18,875	212,575	82,727	66,120	53,590	202,437	92	10,138	5	—	—
Lewis	716,000	363,000	6,246	114,146	22,693	43,470	36,712	102,875	71	11,271	9	—	—
Livingston	1,344,000	842,000	10,272	228,872	35,991	38,550	38,642	113,183	88	115,689	105	—	—
Madison	370,000	279,000	8,115	73,015	38,949	42,660	36,219	117,828	83	—	—	44,813	35
Monroe	657,000	1,712,000	18,931	255,831	382,706	41,040	94,743	518,489	379	—	—	262,658	257
Montgomery	827,000	439,000	8,001	134,601	47,622	25,470	23,275	96,367	114	38,234	54	—	—
Nassau	376,000	60,000	6,000	49,600	353,580	44,730	353,133	751,443	504	—	—	701,843	504
Niagara	657,000	404,000	8,994	115,094	129,375	28,020	47,767	205,162	220	—	—	90,068	119
Oneida	1,545,000	857,000	18,964	259,164	161,278	69,510	68,844	299,632	129	—	—	40,468	21

TABLE 15. (Continued) — PAYMENTS BY THE STATE TO LOCALITIES AND PAYMENTS BY LOCALITIES TO THE STATE

County	Payments by localities to State				Payment by State to localities					Net payment by locality to State		Net payment by State to locality	
	Approximate cost to complete state system		Payments by towns for maintenance of state highways	One-tenth of highways and bridges plus maintenance	Counties' share registration fees	Payment to counties $30 per mile (Sec. 320-b)	Payment to towns (Sec. 101)	Total	Total per mile all highways				
	Highways	Bridges								Total	Per mile of highway outside the state system	Total	Per mile of highway outside the state system
Onondaga	1,906,000	410,000	15,170	246,770	254,237	49,050	67,365	370,652	229	—	—	123,882	91
Ontario	549,000	534,000	10,282	118,582	53,846	40,440	39,997	134,283	100	—	—	15,701	14
Orange	599,000	989,000	15,118	173,918	128,067	47,850	59,533	235,450	148	—	—	61,532	48
Orleans	714,000	361,000	7,304	114,804	32,521	21,600	22,556	76,677	106	38,127	64	—	—
Oswego	1,232,000	304,000	11,708	165,308	54,849	51,420	44,432	150,701	88	14,607	10	—	—
Otsego	859,000	636,000	10,693	160,193	47,583	64,590	51,058	163,231	76	—	—	3,038	2
Putnam	376,000	197,000	3,980	61,280	18,244	15,270	27,399	60,913	119	367	1	—	—
Rensselaer	630,000	923,000	11,435	166,735	99,641	39,450	40,263	179,354	136	—	—	12,619	12
Rockland	474,000	216,000	5,303	74,303	57,421	11,580	35,307	104,308	270	—	—	30,005	100
St. Lawrence	1,608,000	1,647,000	20,591	346,091	74,728	92,970	82,573	250,271	81	95,820	36	—	—
Saratoga	512,000	455,000	10,216	106,916	51,186	45,330	39,022	135,538	89	—	—	28,622	22
Schenectady	318,000	328,000	5,642	70,242	101,193	12,780	22,415	136,388	320	—	—	66,146	207
Schoharie	593,000	633,000	6,759	129,359	21,718	37,770	29,713	89,201	71	40,158	36	—	—
Schuyler	233,000	360,000	4,503	63,803	12,708	22,860	18,041	53,609	70	10,194	15	—	—
Seneca	893,000	132,000	5,589	108,089	20,590	21,120	18,886	60,596	86	47,493	79	—	—
Stueben	1,477,000	1,670,000	15,574	330,274	72,563	92,820	77,350	242,733	78	87,541	31	—	—
Suffolk	2,289,000	179,000	11,714	258,514	188,132	58,590	186,416	433,138	222	—	—	174,624	102
Sullivan	2,266,000	458,000	7,474	279,874	43,628	57,030	52,770	153,428	81	126,446	72	—	—
Tioga	945,000	875,000	6,389	188,389	22,030	32,010	26,573	80,613	76	107,776	111	—	—
Tompkins	412,000	464,000	7,530	95,130	41,214	32,730	28,072	102,016	94	—	—	6,886	7
Ulster	1,270,000	1,007,000	10,981	238,681	80,200	55,440	57,801	193,441	105	45,240	28	—	—
Warren	1,182,000	400,000	5,982	164,182	33,801	30,300	27,176	91,277	90	72,905	83	—	—
Washington	1,398,000	643,000	8,904	213,004	37,664	45,990	35,599	119,253	78	93,751	69	—	—
Wayne	622,000	376,000	8,161	107,961	55,704	40,440	44,937	141,081	105	—	—	33,120	28
Westchester	1,313,000	1,099,000	16,447	257,647	495,773	26,040	182,473	704,286	690	—	—	446,639	605
Wyoming	1,131,000	412,000	6,981	161,281	29,318	32,280	27,002	88,600	82	72,681	78	—	—
Yates	1,211,000	149,000	4,247	140,247	18,564	23,070	20,282	61,916	81	78,331	114	—	—
Total	$54,215,000	$36,595,000	$571,445	$9,652,445	$5,191,129	$2,392,230	$3,098,077	$10,681,436	133	$2,001,972		$3,030,963	

It is estimated that it will cost Westchester county $2,412,000 to complete the state system, or an average of $241,200 per year, if the system is completed in ten years. The payment for maintenance of state roads is $16,447, or the total payments to the State may be expected to average $257,647 per year in addition to costs of right-of-ways. This county now receives from the State $704,286 per year. It could pay its share of the expenses for completing the state system and have left $446,639 for roads outside the state system, for purchase of right-of-ways, for snow removal, and the like.

By similar methods of computation, Columbia county would have to pay the State annually an average of about $305,169. It now receives from the State $123,134, or will have to pay the State an average of $182,035 more than it receives from the State. Under the present system, this county will therefore have to raise enough money locally to buy right-of-ways, pay for snow removal, completely take care of the roads outside the state system, and in addition raise the equivalent of $148 per mile of such roads to complete her payments to the State. But Albany county would receive a net payment from the State of $165 per mile of road outside the state system to help in maintaining such roads, pay for right-of-ways, etc.

Every county is charged the same, 35 per cent of cost, regardless of the wealth of the county, regardless of whether the road is of especial value to the county, and regardless of whether it is an exceedingly expensive road. Columbia county has no large cities, and hence receives a relatively small amount of money from registration fees. It happens to lie between large cities, and therefore expensive roads are needed.

If one-tenth of the estimated cost to complete the state system is spent per year, the present amount of state aid to towns and counties would be less than the amount the counties must contribute to the State in 33 counties. Most of these counties are the ones in which the wealth is low, and because the population is less dense, they are the counties in which the percentage of travel from other counties is high. Under the present laws, they must raise a sum greater than all the money spent on roads outside the state system. Instead of state aid for local roads, the net result of the present system is to compel the poor counties to aid in the development of the state system, and in addition provide the equivalent of the entire cost for the other roads. Under the present laws, these 33 counties may expect to pay the State an average of about two million dollars per year more than they receive from the State. Twenty-four other counties would have net receipts from the State of about three million dollars (table 15).

Of course, the wealthy counties pay more of the state taxes than do the poor counties. But they also use the roads in the poor counties more than the latter do.

There is general agreement that the bridges on state highways should be paid for by the State; that the $50 per mile paid by the towns should be discontinued; and that the State should take over all or part of the 35 per cent of the cost of roads and bridges now paid by the counties. The questions as to whether the State should pay part of the costs of right-of-ways and costs of snow removal are also being discussed. The right-of-ways generally cost somewhat in proportion to the wealth of the county and to that extent are equalized.

Several methods have been proposed for changing the 35 per cent charge. Some would have the State pay the entire cost of constructing and maintaining the roads and bridges in the state system. If the counties are to continue to pay a share of the cost, several methods of equalization are proposed.

The percentage to be paid by the county might be varied with the equalized value of the county.

TABLE 16. PERCENTAGE OF THE COST OF HIGHWAYS THAT WOULD BE PAID BY EACH COUNTY UNDER VARIOUS METHODS OF EQUALIZATION, AND AMOUNTS WHICH EACH COUNTY WOULD RECEIVE UNDER VARIOUS METHODS OF DISTRIBUTING THE GASOLINE TAX

County	Equalized value of taxable real property		Percentage of cost of highways and bridges in the state system that would be paid by the counties, if the counties paid ½, ¼, or ⅛ of 1 per cent for each $1,000 of equalized valuation per mile of highway, but not over 35 per cent			Estimated amount that each county would receive if the following fractions of a 2-cent gasoline tax were returned to the counties on the basis of total road mileage		
	Total	Per mile of all highway	1/2	1/4	1/8	1/5	1/4	2/5
Albany	$336,159,317	$305,744	35	35	35	$60,000	$75,000	$121,000
Allegany	46,164,148	24,369	12	6	3	104,000	130,000	208,000
Broome	183,561,468	127,697	35	32	16	79,000	99,000	158,000
Cattaraugus	80,470,283	40,753	20	10	5	108,000	136,000	217,000
Cayuga	75,996,971	50,996	26	13	6	82,000	102,000	164,000
Chautauqua	190,252,391	97,020	35	24	12	108,000	135,000	215,000
Chemung	90,649,206	103,588	35	26	13	48,000	60,000	96,000
Chenango	34,047,111	19,504	10	5	2	96,000	120,000	192,000
Clinton	39,653,444	28,657	14	7	4	76,000	95,000	152,000
Columbia	58,544,294	42,463	21	11	5	76,000	95,000	151,000
Cortland	29,536,301	28,487	14	7	4	57,000	71,000	114,000
Delaware	43,952,739	18,640	9	5	2	130,000	162,000	259,000
Dutchess	139,764,348	86,450	35	22	11	89,000	111,000	178,000
Erie	1,423,110,382	610,075	35	35	35	128,000	160,000	256,000
Essex	38,722,137	29,993	15	8	4	71,000	89,000	142,000
Franklin	43,851,519	31,833	16	8	4	76,000	95,000	151,000
Fulton	46,626,850	61,173	31	15	8	42,000	52,000	84,000
Genesee	63,241,223	68,699	34	17	9	51,000	63,000	101,000
Greene	27,880,876	26,243	13	7	3	58,000	73,000	117,000
Hamilton	14,029,447	30,452	15	8	4	25,000	32,000	51,000
Herkimer	86,413,313	58,001	29	15	7	82,000	102,000	164,000
Jefferson	102,857,959	46,679	23	12	6	121,000	151,000	242,000
Lewis	27,665,727	19,096	10	5	2	80,000	99,000	159,000
Livingston	45,560,774	35,462	18	9	4	71,000	88,000	141,000
Madison	42,058,704	29,584	15	7	4	78,000	98,000	156,000
Monroe	844,785,441	617,655	35	35	35	75,000	94,000	150,000
Montgomery	92,486,553	108,950	35	27	14	47,000	58,000	93,000
Nassau	851,315,839	570,782	35	35	35	82,000	102,000	164,000
Niagara	294,315,571	315,241	35	35	35	51,000	64,000	103,000
Oneida	275,168,686	118,739	35	30	15	127,000	159,000	255,000
Onondaga	512,093,221	315,647	35	35	35	89,000	111,000	178,000
Ontario	76,415,811	56,701	28	14	7	74,000	93,000	148,000
Orange	172,469,500	108,094	35	27	14	88,000	110,000	175,000
Orleans	34,623,575	48,102	24	12	6	40,000	49,000	79,000
Oswego	72,217,804	42,145	21	11	5	94,000	118,000	188,000
Otsego	48,724,052	22,631	11	6	3	118,000	148,000	236,000
Putnam	31,651,875	62,116	31	16	8	28,000	35,000	56,000
Rensselaer	124,822,072	94,883	35	24	12	72,000	90,000	144,000
Rockland	76,867,465	198,927	35	35	25	21,000	27 000	42,000
St. Lawrence	89,822,953	28,983	14	7	4	170 000	213 000	340,000
Saratoga	83,013,576	54,676	27	14	7	83,000	104,000	167,000
Schenectady	205,574,428	483,068	35	35	35	23,000	29,000	47,000
Schoharie	23,310,011	18,517	9	5	2	69,000	86,000	138,000
Schuyler	14,834,600	19,477	10	5	2	42,000	52,000	84,000
Seneca	25,537,805	36,266	18	9	5	39,000	48,000	77,000
Steuben	77,327,248	24,992	13	6	3	170,000	212,000	340,000
Suffolk	410,915,348	210,404	35	35	26	107,000	134,000	215,000
Sullivan	71,569,927	37,649	19	9	5	104,000	131,000	209,000
Tioga	27,081,595	25,378	13	6	3	59,000	73,000	117,000
Tompkins	54,455,066	49,908	25	12	6	60,000	75,000	120,000
Ulster	85,163,694	46,090	23	12	6	101,000	127,000	203,000
Warren	44,603,140	44,158	22	11	6	55,000	69,000	111,000
Washington	35,936,531	23,444	12	6	3	84,000	105,000	168,000
Wayne	61,687,938	45,775	23	11	6	74,000	93,000	148,000
Westchester	1,330,640,569	1,304,652	35	35	35	56,000	70,000	112,000
Wyoming	33,610,800	31,246	16	8	4	59,000	74,000	118,000
Yates	23,480,476	30,549	15	8	4	42,000	53,000	84,000
Total						$4,399,000	$5,499,000	$8,798,000

Another proposal is that the percentage paid by the counties should vary in accordance with the valuation of the county per mile of highway (table 16).

The percentages of the cost of completing roads in the state system to be paid by each county, if each pays on the basis of its wealth per mile of road are shown in table 16.

For example, Allegany county has an equalized valuation of $24,369 per mile of highway. If it paid one-fourth of one per cent for each one thousand dollars of equalized valuation per mile of highway, it would have to pay 6 per cent. Albany county's valuation is 305,744 per mile of highway, therefore one-fourth of 1 per cent for each $1,000 of equalized valuation would be 76 per cent, but since the present law is 35 per cent, no percentage in the table is higher than 35. Albany county could raise 35 per cent of the cost with a tax rate of less than half of what would be necessary for Allegany to pay 6 per cent of the cost of completing the state system.

Under this system, Broome county would have to pay 32 per cent instead of 35, Cattaraugus, 10 per cent instead of 35. The total payment by all counties to the State would be about $24,000,000 instead of about $54,000,000, a difference of $30,000,000 in ten years or about $3,000,000 per year. In addition to this, there would be a transfer of part of the cost of bridges.

If one-eighth of one per cent were used, Broome county would pay 16 per cent, and Cattaraugus 5 per cent of the cost. The counties would then contribute about $16,000,000 instead of $54,000,000 for the highways.

Gasoline Tax

If a gasoline tax of 2 cents per gallon is levied, it is estimated that at the present time it will yield 20 to 24 million dollars per year and will increase rapidly. If a portion of it is sent back to the counties on the basis of road mileage, it will tend to offset, in part, the inequity that results from returning registration fees to the counties on the basis of vehicles registered there, rather than on the use of roads or the cost of constructing them.

Each of the counties now receives 25 per cent of the money received from motor vehicles registered in the county. Vehicles owned by oil companies, telephone companies, chain stores, and the like, are usually registered in the counties with large cities, so that these counties receive the fees for such vehicles. This method of distribution favors the urban counties. Near a large city, a high percentage of the travel is from the county, but in the rural counties, the travel is largely from cities outside the county. The travel in a county is not proportional to the number of vehicles registered in it. It costs more to maintain roads in an urban county, but not so much more as the number of vehicles registered there is larger than the number registered in a rural county.

It is very important to the cities of the State that a considerable percentage of the gasoline tax be returned to the counties on the basis of road mileage, in order to aid in the development of a lateral road system. Such a system is essential in a sound policy of state development.

The amounts of the gasoline tax that each county would receive if varying fractions of a 2-cent tax were returned to the counties on the basis of road mileage are given in table 16. If one-fifth of a tax of $22,000,000 were returned to the counties, it would be equal to $54.92 per mile of highway; one-fourth would equal $68.65; and two-fifths would equal $109.84 per mile of highway.

A Lateral Road System

The roads of the State are interstate and interurban highways. They are used not merely to get from city to city, but to get from cities to villages, and from cities into the open country, both for recreation and business. They not only collect food supplies for the cities, but enable the cities to send manufactured products back to the villages and farms. Lateral roads are as essential in such a system as are the lateral roads in a railway system. Such roads not only make the fan-like system which is essential for state development, but will also relieve the congestion on the main highways. One of the best ways to provide farm relief is to provide such a lateral road system. This is also one of the best ways of assuring a future food supply. Just at present, the cities are not concerned about food, but it is well to remember the period of the high-cost-of-living which we once had. The next such period is likely to be even more serious.

Suggested Topics for Discussion

The data in this article are presented so that basic data will be available for discussion at meetings of farmers, chambers of commerce, automobile clubs, etc. The following subjects are suggested as particularly important for discussion:

(1) Should a gasoline tax be levied? If so, what should be done with the money? How much should go to the counties for lateral roads?

(2) What change should be made in the share which the counties must pay for completing the state highway system?

(3) Should the State pay a part of the costs of right-of-ways and snow removal? If so, on what basis?

(4) What change should be made in the distribution of money to townships under Section 101?

G. F. Warren and F. A. Pearson

THE OUTLOOK FOR THE REMAINDER OF THE 1928 LATE POTATO CROP

For the third consecutive year since 1925, the acreage and production of white potatoes in the United States have shown an increase over the year immediately preceding. The estimated acreages were:

1925	3,092,000	1927	3,476,000
1926	3,122,000	1928	3,825,000

The estimated productions were:

1925	323,000,000	1927	402,000,000
1926	354,000,000	1928	463,000,000

The 1928 potato crop was the largest on record in the United States.

Such increases in acreage and production have usually been accompanied in the past by marked reduction in prices and the year 1928 is no exception. The average prices paid producers[1] for potatoes on December 1 were:

1925	$1.868	1927	0.965
1926	1.414	1928	0.540

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[1] United States Department of Agriculture, Yearbook 1927, page 882, and Crops and Markets, December 1928, Volume 5, Number 12, page 454.

An increase of approximately 43 per cent in production during the past four years has resulted in a decrease of approximately 71 per cent in price per bushel received by the producer. An increase of approximately 15 per cent in production during 1928, compared with 1927, resulted in a decrease of approximately 44 per cent in price per bushel received by the producer.

Early and Mid-Season Situation

The early and mid-season potato crop of 1928, while no longer a factor in the market, is of interest since the early and mid-season potato producing states were responsible for about one-third of the total increase of approximately 60 millions of bushels. Carload shipments of potatoes from these early and mid-season states during 1928 exceeded those of 1927 by 10,101 carloads or approximately 6 millions of bushels of potatoes.[2] The delayed movement of the crop from several of the mid-season states had a depressing effect upon the market during the fall and reduced to a considerable extent the possible outlet for the usual movement from the surplus late states at digging time.

Late Potato Producing States

Of the 19 important late-potato-producing states, 8 report a decrease in production as compared with last year and 11 an increase (table 1).

TABLE 1. COMPARISONS OF ESTIMATED PRODUCTION OF LATE WHITE POTATOES IN 19 COMPETING STATES, 1923-1928

State	1923-27*	1927*	1928*	Increase or decrease compared with 1927 crop
Eastern States				
Maine	36,994,000	37,352,000	37,840,000	+ 488,000
Vermont	3,346,000	3,255,000	2,982,000	− 273,000
New York	32,517,000	28,620,000	32,376,000	+ 3,756,000
Pennsylvania	24,870,000	26,400,000	31,980,000	+ 5,580,000
	97,727,000	95,627,000	105,178,000	+ 9,551,000
East Central States				
Michigan	29,401,000	23,120,000	35,802,000	+ 12,682,000
Wisconsin	26,453,000	23,920,000	31,970,000	+ 8,050,000
	55,854,000	47,040,000	67,772,000	+ 20,732,000
West Central States				
Minnesota	35,056,000	33,128,000	38,940,000	+ 5,812,000
North Dakota	10,179,000	11,526,000	14,805,000	+ 3,279,000
South Dakota	5,530,000	6,900,000	6,030,000	− 870,000
Nebraska	7,431,000	8,904,000	10,080,000	+ 1,176,000
	58,196,000	60,458,000	69,855,000	+ 9,397,000
Western States				
Colorado	13,330,000	14,400,000	13,420,000	− 980,000
Wyoming	1,652,000	2,329,000	2,352,000	+ 23,000
Montana	3,713,000	4,860,000	4,255,000	− 605,000
Idaho	15,599,000	24,380,000	19,720,000	− 4,660,000
Utah	2,488,000	2,970,000	3,312,000	+ 342,000
Nevada	711,000	780,000	840,000	+ 60,000
California	7,394,000	7,956,000	7,728,000	− 228,000
Oregon	4,584,000	6,240,000	6,240,000	0,000
Washington	9,708,000	13,430,000	9,045,000	− 4,385,000
	59,179,000	77,345,000	66,912,000	− 10,433,000
Total 19 states	270,956,000	280,470,000	309,717,000	+ 29,247,000
Total United States	383,645,000	402,741,000	462,943,000	+ 60,202,000
Per cent of 5-year average	100.00	104.98	120.67	——
Per capita production**	3.36	3.38	3.83	——

*United States Department of Agriculture Yearbooks 1926, page 934; 1927, page 883; and Crops and Markets, December 1928, Volume 5, Number 12, page 454.

**Assuming that an average population of 114,238,400 consumed the crops grown in 1923-27 inclusive; a population of 119,198,000 as of January 1, 1928; and 120,827,000 as of January 1, 1929.

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[2] United States Department of Agriculture, Crops and Markets, December 1928, Volume 5, Number 12, page 493.

In 1927, practically all of the increased production was in the west central and western states. In 1928, the situation was almost the reverse. There was a net decrease in production of 10.4 million bushels in the western states, whereas there was a net increase of 30.3 million bushels in the east central and eastern states. There was also a net increase of 9.4 million bushels in the west central states. The situation was further aggravated, however, since the 16 "deficient late-potato-producing states" had a net increase over 1927 of 20.8 million bushels which served to displace an equal quantity ordinarily shipped in from the 19 surplus states.[3]

Every late surplus state of any importance except Washington increased its potato acreage during 1928. The decreased production in the western states was due to an average decrease in yield of 25 7 bushels per acre and despite an increase in acreage of 13,000 acres. Had the 1928 yields per acre in the western states been equal to those of 1927, that region would have shown an increase of 2.1 million bushels instead of a decrease of 10.4 million. In the eastern states, the increased production was due almost entirely to the increase in acreage of 51,000 acres, since the yield per acre increased only 3.2 bushels.

The yields of potatoes obtained during 1927 in Michigan and Wisconsin were about 20 per cent below average. The yields obtained during 1928 are, therefore, not as abnormal as might be assumed from comparison of 1927 and 1928 yields. The increased yield of 30.3 bushels per acre, accompanied by an increase in acreage of 35,000 acres, however, accounted for almost one-sixth of the total United States increase. In the west central states, yields per acre changed very little but an increase of 82,000 acres was sufficient to boost the potato crop by approximately 9.4 million bushels or approximately one-sixth of the increase in the total United States crop (table 2).

TABLE 2. COMPARISON OF ACREAGE AND YIELD PER ACRE OF WHITE POTATOES 19 SURPLUS LATE STATES, 1927 AND 1928*

State	Acreage			Yield per acre†		
	1927	1928	Increase 1928 compared with 1927	1927	1928	Increase or decrease 1928 compared with 1927
	acres	acres	acres	bu.	bu.	bu.
Eastern Maine Vermont New York Pennsylvania	672,000	723,000	51,000	142.3	145.5	+ 3.2
East Central Michigan Wisconsin	549,000	584,000	35,000	85.7	116.0	+ 30.3
West Central Minnesota North Dakota South Dakota Nebraska	585,000	667,000	82,000	103.3	104.7	+ 1.4
Western Colorado Wyoming Montana Idaho Utah Nevada California Oregon Washington	475,000	488,000	13,000	162.8	137.1	— 25.7

*United States Department of Agriculture, Crops and Markets, Volume 5, Number 12, page 454.
†Weighted average.

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[3] United States Department of Agriculture, Crops and Markets, December 1928, Volume 5, Number 12, page 454.

Carload Movement of Potatoes

During the years 1923-1927, New York State produced an average of approximately 32.5 million bushels of potatoes, only 28.7 per cent of which was marketed in carload lots. Approximately 41.4 per cent of the production of the 19 late surplus states moved in carload lots during the same period. Based on the average percentage of total production shipped annually in carload lots, an estimate has been made (table 3, column 6) of the probable carload shipments from the 1928 crop of each of the important states. If these estimates are reasonably accurate, there were approximately 135,000 carloads which might be shipped after January 1, 1929. The shipments after January 1, 1928 were 96,847 carloads, and 79,804 carloads after January 1, 1927. Through the courtesy of the Tabb Potato Service there has been included in this table (column 7) an estimate, based on data supplied by a large number of potato dealers located in these states, of the probable number of carloads which will be shipped from the 1928 crop. It will be noted from a comparison of columns 6 and 7, that potato dealers do not expect nearly as large a proportion of the 1928 crop

TABLE 3. CARLOAD SHIPMENTS OF LATE WHITE POTATOES FROM 19 COMPETING STATES, 1923-1927, AND ESTIMATED SHIPMENTS FROM THE 1928 CROP
(One carload is assumed to equal 600 bushels or 36,000 pounds)

State	Average annual carlot shipments 1923-27*	Carloads shipped 1927-28**	Carloads shipped last season to Jan. 1, 1928**	Carloads shipped this season to Dec. 31, 1928**	Estimate of total carloads that might be shipped from 1928 crop†	Potato dealer's estimate of total carloads to be shipped from 1928 crop††
Eastern States						
Maine	40,058	40,945	18,432	16,309	40,974	36,465
Vermont	202	224	138	86	180	160
New York	15,050	12,319	8,916	7,099	14,985	12,750
Pennsylvania	4,013	3,375	2,277	2,909	5,159	4,940
	59,323	56,863	29,763	26,403	63,843	54,315
East Central States						
Michigan	15,446	8,567	2,906	4,552	18,808	13,585
Wisconsin	16,559	15,455	6,599	6,179	20,013	16,730
	32,005	24,022	9,505	10,731	38,833	30,315
West Central States						
Minnesota	29,398	33,482	19,376	8,800	32,658	25,825
North Dakota	6,801	7,933	5,156	3 387	9,890	6,890
South Dakota	1,965	2,537	2,217	1 235	214	1 535
Nebraska	4,273	6,045	3,405	2,092	580	5,130
	42,437	49,997	30,154	15,514	50,936	39,380
Western States						
Colorado	14,641	17,328	10,457	7,395	14,740	13,480
Wyoming	1,023	2,017	1,425	754	1,457	1,360
Montana	990	1,376	370	219	1,135	620
Idaho	18,295	28,305	10,457	6,122	23,128	17,215
Utah	988	954	642	367	1,315	765
Nevada	719	942	405	240	849	745
California	6,703	7,970	6,268	5,555	7,007	7,310
Oregon	1,821	2,339	951	868	2,477	2,375
Washington	8,236	9,612	4,481	4,061	7,675	7,095
	53,416	70,843	35,456	25,581	60,399	50,965
Total 19 States	187,181	201,725	104,878	78,229	213,963	174,975
Total United States	244,720	270,322	172,679	156,200	——	——

*Market News Service September 1928 and Crops and Markets December 1928, Volume 5, No. 12, p. 492.

**Weekly Summary of Carlot Shipments, January 2, 1929.

†Estimate of writer based on average percentage of production shipped in carload lots by each state during 5 year period 1923-27 inclusive.

††Courtesy of Tabb Potato Service, Chicago, Ill., January 24, 1929, Market Bulletin No. 140, p. 4

to go to market in carload lots as has been the case during the past 5 seasons. Potato dealer estimates of probable shipments are almost 39,000 carloads less than the percentage estimate in column 6. The dealer estimate is accompanied by the following comment:

"It is more or less futile to attempt any carlot estimates under prevailing conditions when a decline of $.10 to $.25 per hundredweight in most shipping districts would shut off all movement and an advance of an equal amount in the near future would flood the country with potatoes."

From the data at hand, it appears that although there are apparently 29,247,000 more bushels of potatoes available in these 19 states this year, there had actually been shipped up to January first 26,649 carloads less than last year. It seems likely that approximately 12,000 carloads or 7.2 million bushels more could be offered in carload lots this year than last year. It is also likely that the proportional estimate of carload movement may be too high since the major portion of the increased 1928 production is in the thickly populated states where an increasingly large proportion of the crop is trucked to market.

Holdings of Potatoes January 1

The annual report on holdings of potatoes by growers and dealers shows 110.7 million bushels on hand in the 19 principal surplus late potato states Januray 1, 1929 compared with 88.7 million on January 1, 1928 and 74.3 million on January 1, 1927.[4] It also shows 20.2 million bushels on hand January 1, 1929 in the 16 "deficient-late-potato states" compared with 11 million in 1928 and 9.8 million in 1927. These data indicate that there were approximately 31 million bushels or 51,315 carloads more of merchantable potatoes in growers' and dealers' hands on January 1, 1929 than one year previous. The 16 deficient states had available 13.6 million bushels more in 1928 than 1927, equivalent to approximately 22,600 carloads.

The tendency on the part of both consumer and city dealer has been to buy potatoes only as needed since reports of a large crop gave ample assurance of an adequate supply at all times. This tendency, together with increased production in deficit states, has probably been largely responsible for the relatively small carload shipments reported to January first. Since no city reserves are available, it is probable that hand-to-mouth buying will result in a considerable increase in the number of carloads shipped after January 1, 1929.

Canadian Crop

The Canadian white potato crop for 1928 is estimated at 91 million bushels, an increase of 11.2 million over 1928.[5] Canada shipped 3,633 carloads of its 1927 crop into the United States and was also a heavy shipper to Cuba and the West Indies. Up to January 1, 1929 however, Canada had shipped only 190 carloads into the United States compared with 632 carloads to January 1, 1928 and 1926 carloads to January 1, 1927. Effective December 1, 1928 the Cuban tariff on white potatoes will be $2 per 100 kilos ($0.663 per bushel). Potatoes from the United States are accorded a preferential rate 20 per cent less, or approximately $0.53 per bushel. The United States tariff on white potatoes from Canada is $0.50 per hundredweight or $0.30 per bushel. The increased Cuban tariff may divert some Canadian potatoes to the United States, but with the low prices prevailing in the United States, it is not likely that potato imports will assume serious proportions.

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[4] United States Department of Agriculture, Bureau of Agricultural Economics, News Release January 14, 1928.

[5] United States Department of Agriculture, "Foreign Crops and Markets," January 21, 1929, Volume 18, Number 3, page 77.

According to the United States Department of Agriculture southern growers have expressed intentions to plant a 29 per cent smaller acreage of potatoes this spring than last.[6]

Increases in acreage of winter vegetables for 1929 are indicated as follows: spinach, 62 per cent; lettuce, 25 per cent; and cabbage, 12 per cent.[7]

M. P. RASMUSSEN.

COMPARISON OF VARIATION IN MILK PRODUCTION AND VARIATION IN ASSOCIATED FACTORS ON NEW YORK DAIRY FARMS

The relation of the variation in milk yield per cow to the variation in seven associated factors in two regions of New York State, one with mixed hay and the other with alfalfa hay, for the year ending April 30, 1922, is given in table 1.

Of the factors considered the largest increase in milk production per cow was due to a large proportion of the total nutriment coming from digestible protein. A ten per cent increase in narrowness of ration, as thus measured, was accompanied by an average increase in yield of milk of 4.8

TABLE 1. CHANGES IN MILK YIELD PER COW ACCOMPANYING CHANGES IN OTHER FACTORS

Factor	Average for farms feeding mixed hay	Average for farms feeding alfalfa hay	Percentage increase or decrease in milk yield per cow with each per cent increase in the factor considered	
			Mixed hay	Alfalfa hay
1. Percent of total digestible nutrients in winter rations from digestible protein (narrowness of ration)	13.1	16.2	+0.48	+0.44
2. Pounds of total digestible nutrients in winter ration (intake of total nutriment)	43.4	47.8	+0.43	+0.29
3. Per cent of cows freshening from September to December, inclusive (extent of winter dairying)	47.1	46.1	+0.01	+0.03
4. Per cent of cows 5 to 8 years old (proportion of herd of prime age)	47.6	43.2	+0.01	+0.04
5. Per cent of total digestible nutrients in winter ration derived from dry forage (proportion of ration from hay)	38.7	51.9	−0.20	−0.33
6. Pounds of total digestible nutrients in winter ration per cow from succulent feed (intake of succulent feed)	13.2	11.7	−0.01	−0.07
7. Per cent of cows in the herd replaced (herd replacment)	22.1	14.3	−0.03	−0.03
8. Milk yield per cow	6288.0	6726.0		

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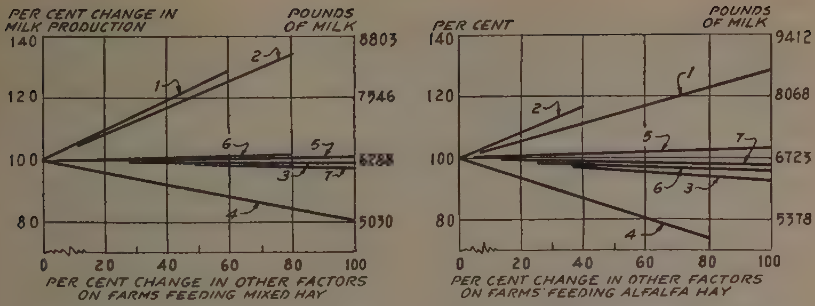
[6] United States Department of Agriculture, The Agricultural Situation, January 1, 1929, Volume 13, Number 1, page 1.

[7] United States Department of Agriculture, Truck Crop Reports, January 1929.



1—Per cent total digestible nutrients from protein
Per cent total digestibel nutrients per cow
3—Per cent total digestible nutrients in succulent feed
4—Per cent of total digestible nutrients from dry forage
5—Per cent of cows freshening September to December
6—Per cent of cows 5-8 years old.
7—Per cent of cows replaced

EFFECT OF VARIOUS FACTORS ON MILK PRODUCTION CHENANGO AND MADISON COUNTIES, 1921

When total feed intake and narrowness of ration increase milk yield per cow increases. When a larger proportion of the ration is derived from hay, milk yield is decreased. Other factors are relatively unimportant in causing variation in milk yield per cow.

per cent with mixed hay, and 4.4 per cent with alfalfa hay. Apparently, it is as important to feed a narrow ration with alfalfa hay as with any other kind of roughage.

The next largest increase in milk production per cow results from an increase in the total intake of digestible nutrients in winter. A ten per cent increase was accompanied by an increase in milk yield of 4.3 per cent with mixed hay and 2.9 per cent with alfalfa.

After eliminating the effect of the other factors considered, there was very little relationship between intake of succulent feed, age of cows, season of freshening, or rapidty of herd replacement, and milk production.

The proportion of total digestible nutrients derived from dry forage has a decided effect on milk production.[1]

A ten-per-cent increase in the proportion of the total digestible nutrients in the dry forage of the winter ration was accompanied by a decrease in milk production per cow of 2 per cent with mixed hay, and 3.3 per cent with alfalfa. The highest milk production was obtained when a large proportion of the ration came from grain and a relatively small proportion from hay. Dairymen in the alfalfa region derive on the average 52 per cent of their nutriment from dry forage. Such a large proportion of this

TABLE 2. RELATION OF PROPORTION OF TOTAL NUTRIMENT DERIVED FROM CONCENTRATES TO MILK OUTPUT AND COST

	Per cent of nutriment from concentrates			
	Mixed hay		Alfalfa hay	
	Less than 22	22 and more	Less than 22	22 and more
Nutritive ratio	1:7.3	1:6.2	1:5.2	1:5.2
Milk per cow	5814	6516	6371	6785
Cost per 100 pounds	$2.99	$2.73	$2.57	$2.43

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[1] Misner, E. G. The Cost of Producing Milk and Some Factors Influencing the Cost. Proceedings of the World's Dairy Congress, 1923, Vol. 2., p. 1097. Table 13, p. 1109.

was from hay that better production was obtained, even with alfalfa, by reducing the hay and increasing the grain in the ration.

The relation of the proportion of concentrates in the winter ration to increased production, decreased cost per 100 pounds, and larger net returns per cow, is shown in table 2.

TABLE 3. MILK YIELD PER COW RESULTING WITH SPECIFIC CHANGES IN ASSOCIATED FACTORS. AVERAGE, 6288 POUNDS PER COW = 100. MIXED HAY

Factors	Per cent of average of factor considered						
	40	60	80	100	120	140	160
	Per cent of average milk production						
1. Per cent of total digestible nutrients in winter rations from digestible protein (narrowness of ration)	71	81	90	100	110	119	129
2. Pounds of total digestible nutrients in winter ration (intake of total nutriment)	74	83	91	100	109	117	126
3. Per cent of cows freshening from September to December, inclusive (extent of winter dairying)	100	100	100	100	100	100	100
4. Per cent of cows 5 to 8 years old (proportion of herd of prime age)	99	100	100	100	100	100	101
5. Per cent of total digestible nutrients in winter ration derived from dry forage (proportion of ration from hay)	112	108	104	100	96	92	88
6. Pounds of total digestible nutrients in winter ration per cow from succulent feed (intake of succulent feed)	101	100	100	100	100	100	100
7. Per cent of cows in the herd replaced (herd replacement)	102	101	101	100	99	99	98

E. G. MISNER

RELATION OF YIELD TO THE COST OF PRODUCING APPLES ON ORCHARDS OVER 30 YEARS OLD, NIAGARA COUNTY[1]

Yield is a very important factor in determining the cost and returns in growing apples (tables 1 and 2). As the yield increased from 0.7 barrels

TABLE 1. EFFECT OF YIELD ON THE COSTS AND RETURNS IN PRODUCING APPLES ON 75 ORCHARDS OVER 30 YEARS OLD ON DUNKIRK SOILS, NEWFANE, 1926.*

Packed barrels per tree	Number of farms	Barrels per tree	Growing cost per barrel	Total cost per barrel**	Profit per barrel	Return per hour of labor
0 to 0.9	7	0.7	$2.15	$3.47	$−1.74	$−0.18
1.0 to 1.9	25	1.4	1.24	2.02	−0.41	0.21
2.0 to 2.9	22	2.3	0.99	1.73	0.00	0.42
3.0 to 3.9	10	3.4	0.74	1.45	0.15	0.56
Over 4.0	11	5.0	0.54	1.23	0.51	1.05
Total or Average	75	2.4	$0.91	$1.65	$0.03	$0.44

*No depreciation on the orchards was included. If depreciation is included at 2 per cent annually, the additional cost with average yields is 10 cents per barrel on the Dunkirk soils and 16 cents on the Clyde. The return per hour of labor would be 7 and 6 cents less, on the average, on the Dunkirk and Clyde soils respectively.

**The total cost does not include any expense for package, storage or commission.

TABLE 2.—EFFECT OF YIELD ON THE COSTS AND RETURNS IN PRODUCING APPLES ON 54 ORCHARDS OVER 30 YEARS OLD ON CLYDE SOILS, NEWFANE, 1926*

Packed barrels per trees	Number of farms	Barrels per tree	Growing cost per barrel	Total cost per barrel**	Profit per barrel	Returns per hour of labor
0 to 0.4	13	0.2	$6.02	$8.10	$−6.48	$−0.42
0.4 to 0.9	17	0.7	2.78	3.95	−2.40	−0.26
1.0 to 1.9	17	1.3	1.49	2.39	−0.68	0.18
Over 2.0	7	2.8	0.76	1.53	0.04	0.46
Total or Average	54	1.1	$1.66	$2.62	$−1.01	$0.05

*No depreciation on the orchards was included. If depreciation is included at 2 per cent annually, the additional cost with average yields is 10 cents per barrel on the Dunkirk soils and 16 cents on the Clyde. The return per hour of labor would be 7 and 6 cents less, on the average, on the Dunkirk and Clyde soils respectively.

**The total cost does not include any expense for package, storage, or commission.

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[1] A summary of the cost of producing apples on the 75 orchards on Dunkirk soil types and 54 orchards on Clyde soils, Newfane township, Niagara County, New York, in 1926, was given in Farm Economics Number 55.

per tree to 1.4 barrels on the Dunkirk soils, the cost of producing apples up to picking time decreased 91 cents a barrel, and the returns per hour of labor increased from -18 cents to 21 cents. A similar change in yield on the Clyde soils decreased the costs $1.29, and increased the returns per hour of labor from -26 cents to 18 cents.[2]

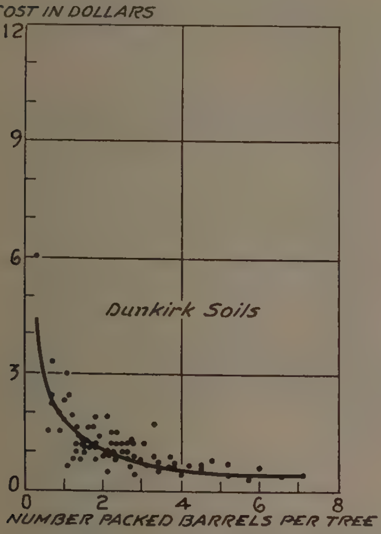

FIGURE 1. RELATION OF YIELD TO THE COST OF GROWING APPLES ON 75 ORCHARDS OVER 30 YEARS OLD ON DUNKIRK SOIL TYPES, NEWFANE TOWNSHIP, NIAGARA COUNTY, NEW YORK, 1926

Most of the orchards had an average yield between 1 and 4 barrels per tree, and a growing cost between 60 cents and $1.60 per barrel.

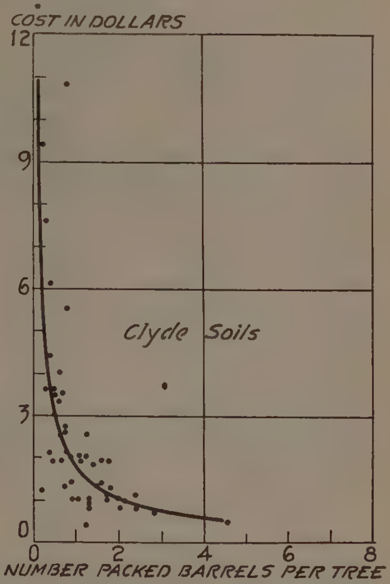

FIGURE 2. RELATION OF YIELD TO THE COST OF GROWING APPLES ON 50 ORCHARDS OVER 30 YEARS OLD ON CLYDE SOIL TYPES, NEWFANE TOWNSHIP, NIAGARA COUNTY, NEW YORK, 1926.

Most of the orchards had an average yield between 0.1 and 2 barrels per tree, and a growing cost between $1.00 and $4.00 per barrel. Four orchards were not plotted because the yield was less than 0.05 of a barrel to a tree.

On the average, in 1926, it required a yield of about 3.0 barrels per tree to return a profit on the Dunkirk soils. The group with an average yield of 5.0 barrels per tree made a profit of 51 cents per barrel and the farmer received $1.05 for each hour spent on the orchard. Only the group with the highest yielding orchards on the Clyde soils, 2.8 barrels per tree, made any profit.

The relation of yield to the cost of growing apples up to picking time is shown graphically in figures 1 and 2. The cost of growing decreased rapidly as the yield increased. The important causes of variation in costs are differences in valuation of the orchard, and in the amount of pruning, cultivating, manuring, and fertilizing. These cultural practices affect the crops of following years. Many farmers prune their orchard every other year. However, in this study all the growing costs on the orchard from the time the apples were harvested in 1925 were charged to the 1926 crop.

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[2] Depreciation on the orchards was not included.

The cost curves for the Dunkirk and Clyde soils are almost identical.[3] However, the variation in the yield on the two soils series is very dissimilar. On the Clyde soils, the yields are concentrated between 0.1 and 2.0 barrels per tree, while on the Dunkirk soils they lie between 1.0 and 4.0 barrels per tree. Only 2 per cent of the orchards on the Clyde soils had a yield over 3.0 barrels per tree, while 28 per cent of the orchards on the Dunkirk soils had yields of over 3 barrels.

Increasing Yields

Soils are the most important factor affecting yield. The contrast between the well-drained Dunkirk soils and the poorly-drained Clyde soils is clearly shown in tables 1 and 2, figures 1 and 2, and in FARM ECONOMICS[4] Number 55.

Chandler[5] states that "An ideal soil for all fruits seems to be one that is reasonably rich, well drained, and well aerated so that the roots may pentrate deeply, and one in which the moisture is adequate for the tree." The Dunkirk soils fulfill these requirements to a high degree, but the Clyde soils lack sufficient drainage and aeration.

Apple trees on the coarse soils, the Dunkirk sandy gravelly loam, yielded as well or better from 1918-26 than those on the slightly heavier soils, the Dunkirk loam. The moisture supply on the best drained soil apparently was sufficient to give as good or better yields than were produced on other soil types.

Selection of the proper varieties is the second factor in increasing yields.

T. E. LA MONT.

COSTS OF HAULING MILK BY INDIVIDUAL DAIRYMEN COMPARED WITH RATES CHARGED BY COMMERCIAL HAULERS

In the accompanying table average costs of hauling milk by 204 dairymen are compared with rates charged for hauling by 69 commercial haulers.

TABLE 1. COSTS OF INDIVIDUAL HAULING AND RATES CHARGED BY COMMERCIAL HAULERS

Length of haul	Cost of hauling milk per 100 pounds 204 dairymen cents	69 commercial haulers cents
1 mile or less	12.6	12.3
1.1 to 2 miles	20.0	12.5
2.1 to 3 miles	23.8	13.2
3.1 to 4 miles	27.1	14.5
Over 4 miles	41.1	20.0

*In computing the costs of hauling by individual dairymen, the following standard rates were used: human labor, 31 cents per hour; horse labor, 17 cents per hour; use of wagon and harness, 5 cents per hour of horse labor; use of truck or auto, 10 cents per mile. No charge was made for the second horse when two horses were used expect in a few cases where the loads were apparently too large for one horse.

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[3] The curves are as follows:

Dunkirk soils

$$(\text{Log. } y = 0.2473 - 0.7257 \log x)$$

Clyde soils

$$(\text{Log. } y = 0.2517 - 0.7898 \log x)$$

The coefficients of log x, −0.7257 and −0.7898, indicate the relative flexibility of costs. On the two soil types apparently they are about the same.

[4] Farm Economics Number 55, November, 1928.

[5] Chandler, W. H., Fruit Growing, p. 91, 1925.

The average costs apply to hauling both with horses and with autos or trucks. The average number of trips per dairyman for the year was 327, of which 112 were trips with autos or trucks. Eighty-nine of the 204 dairymen used autos or trucks when road conditions permitted. Some of the dairymen, particularly those having the longer hauls, exchanged hauling with neighbors. This reduced the number of trips and the cost per 100 pounds of milk.

The average rates charged by commercial haulers apply only to routes on which most of the milk was picked up at the farms. Somewhat lower rates were charged by haulers who picked up most of the milk at platforms. The average rates given in table 1 include the total charge, regardless of whether the entire amount was paid by the dairymen. The cost of operating the commercial routes was about the same as the income.

For distances of one mile or less, the average cost of hauling by individual dairymen was about the same as the average of rates charged by commercial haulers. For hauls longer than one mile, the cost of individual hauling was more than the commercial rates. The average cost of hauling by individuals who were located more than 4 miles from the point of delivery, was more than twice as much as the average rate charged by commercial haulers, even though the latter were, in general, hauling the milk a greater distance.

Of the 1547 dairymen supplying milk to 20 New York State plants in 1925, about 56 per cent were hauling their own milk and 44 per cent patronized commercial haulers. Apparently many more dairymen would profit by sending their milk on commercial routes.

LELAND SPENCER.

USE OF FERTILIZER ON MARKET PEAS IN CHENANGO AND MADISON COUNTIES, 1921 TO 1925

The use of fertilizer on peas was very profitable in the Chenango valley during the five years, 1921 to 1925. An application of fertilizer costing $10.65 per acre resulted in an increase in yield of 31 bushels. This yield was 25 per cent larger than when $1.25 per acre was spent for fertilizer. For early market peas, the increase in yield was sufficient to pay for the additional fertilizer, extra baskets, picking and marketing charges and left a profit of $15.40 per acre, or 10 cents per bushel. Due to the slightly higher prices for August peas, $2.30 per bushel compared with $1.99 in July, this increase in the yield netted $25.00 per acre, or 16 cents per bushel (table 1).

TABLE 1. RATES OF FERTILIZER APPLICATION ON MARKET PEAS, CHENANGO COUNTY, 1921-25.

Number of farms	Fertilizer per acre			Yield of peas per acre, bushels
	Range	Value	Pounds	
81	$0.01–$ 3.99	$1.15	93	125
74	$4.00–$ 7.99	5.47	304	138
45	$8.00–$34.00	10.65	593	156

Slightly higher yields of peas resulted when high-nitrogen fertilizers were used but most of the farmers used other grades of fertilizers (table 2).

TABLE 2. KIND OF FERTILIZERS USED ON PEAS, CHENANGO COUNTY, 1921-25

Kind of fertilizer	Number of records	Yield of peas per acre, bushels	Fertilizer per acre		Value of fertilizer per ton	Manure per acre, tons
			Pounds	Cost		
Acid phosphate	34	137	384	$4.55	$24	1.2
Mixed fertilizer:						
0-2 per cent nitrogen	105	140	353	6.57	37	0.6
3-5 per cent nitrogen	24	159	370	7.29	39	0.4

To obtain the net value per acre of the increase in the yield of peas, $1.20 was subtracted from the selling price for the expense of picking, buying extra baskets, and marketing the additional peas (table 3). In all cases, the application of fertilizer increased the net returns. In the case of the higher priced peas, there was a rapid increase in the returns for each dollar of fertilizer applied.

TABLE 3. VALUE OF INCREASED YIELDS OF MARKET PEAS DUE TO APPLICATIONS OF MANURE AND FERTILIZER, CHENANGO COUNTY, 1921-25

Factor	No manure on peas			Manure on peas
Number of farms	81	74	45	34
Average cost of fertilizer per acre	$1.15	$5.74	$10.65	$4.61
Average cost of manure per acre	0	0	0	18.31
Yield of peas per acre, bushels	125	138	156	144
Increase in yield per acre due to fertilizer and manure	20	33	51	39
Net value per acre of increased yield of peas above costs of fertilizer, manure, picking and marketing charges.				
Peas selling at,				
$1.50 per bushel	$4.85	$4.16	$4.65	−$11.22
2.25 per bushel	19.85	28.91	42.90	18.03
3.00 per bushel	34.85	53.66	81.15	47.28

Applications of manure, valued at $1.68 per ton, did not pay, when a proportionate share of the increase in yield was attributed to the commercial fertilizer used.

The average yield of peas on farms using neither manure nor fertilizer was only 105 bushels per acre.

P. H. STEPHENS

NET RETURNS ON CHENANGO COUNTY FARMS INCREASED BY GROWING MARKET PEAS

For the five years, 1921 to 1925 inclusive, the farmers in Chenango County who grew the larger acreages of peas for market made the higher labor incomes. When more than 6 acres were grown per farm, the labor incomes averaged $2248, and when no peas were grown the incomes averaged only $386.

TABLE 1. ACRES OF PEAS AS RELATED TO LABOR INCOME. CHENANGO COUNTY FARMS. 5 YEARS' AVERAGE. 1921–1925

	None	Less than 4.0 acres	4.0 to 6.0 acres	More than 6 acres
Number of farm records	272	128	69	40
Acres of peas	0	1.8	4.5	15.7
Yield, peas bushels	0	132	146	141
Per cent income from crops	9	17	28	43
Man equivalent	2.2	2.1	2.4	3.2
Number of cows	23	21	22	25
Capital	$16,000	$13,000	$16,000	$22,000
Labor income	$386	$502	$801	$2,248

J. C. NEETHLING and E. G. MISNER

Dr Ball

FARM ECONOMICS

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NEW YORK STATE COLLEGE OF AGRICULTURE
CORNELL UNIVERSITY, ITHACA, N. Y.

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No. 58 April, 1929

BUSINESS CONDITIONS:—1910-14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	190	173	236	281	83
1928	151	153	145	149	170	190	171	237	349	98
Aug., 1927	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Jan., 1928	149	148	141	143	168	193	172	236	318	89
Feb.,	149	148	138	142	168	193	170	235	316	95
Mar.	149	149	141	143	168	192	169	239	327	90
Apr.	151	152	145	147	170	196	169	232	340	97
May	153	164	153	157	172	186	171	235	347	101
June	151	169	150	156	170	183	170	238	334	107
July	152	164	152	156	170	189	172	235	336	103
Aug.	153	152	145	151	171	189	171	237	347	97
Sept	155	152	146	154	174	196	173	240	365	93
Oct.	152	149	144	148	171	196	172	240	373	94
Nov	150	153	142	146	168	191	172	239	391	100
Dec	150	147	141	143	166	198	171	243	393	104
Jan., 1929	151	145	139	141	169	202	169*	240	409	120
Feb.	149	148	142	146	173	199	170*	242	407	128
March		151	146	150			168*		415	128

*Preliminary figure will be revised later.

(For footnotes see Farm Economics No. 57 p 1026, February 1929.)

BUSINESS CONDITIONS

The most striking change in the business situation is in the demand for money. Bonds have declined in price. Call money in New York has been as high as 20 per cent. Commercial loans have been less affected, but rates have risen and money is more difficult to obtain, particularly for second-class risks, such as second mortgages on city real estate.

A year ago last September, the rates on four-to-six months commercial paper were 69 per cent of the pre-war average. In March they were 128 per cent of the pre-war average, or interest rates have nearly doubled in a year and a half.

The very high price of stocks has led many corporations to issue additional stock and retire bonds. Some large corporations have paid off their entire endebtedness in this manner, so that they have no interest charges.

New corporations and old corporations, requiring additional funds are commonly obtaining capital by the sale of stock rather than by borrowing. This places such enterprises in a very favorable position to meet emergencies

Farm Prices

Potatoes are declining in price as is usually the case in the spring when the crop is large. Small crops generally sell for a higher price in the spring than in the fall. When the crop is large, it is usually very difficult to get rid of the last part of it. In some parts of New York, farmers are getting as low as 20 cents per bushel.

Timothy hay is a little higher in price than it was last year, but is still below pre-war prices in New York. There seems to be no probability that timothy hay will bring a good price at any time except in occasional years when there is a severe drought. The hay land will gradually be used for other purposes, but such adjustment is very slow and never complete. It is not to be expected that timothy hay will ever return to its pre-war relationship to other crops. The sooner this situation is appreciated, and adjustment made, the better it will be.

Alfalfa hay is also low compared with pre-war prices, but the demand for it for dairy feed is so great that a profitable market outlet promises to continue.

Some fundamental, and apparently permanent, changes have occurred in the prices of farm crops (table 1). For many years, there has been a growing appreciation of the value of corn compared with the value of other grain crops. The United States farm prices of corn in the past five years have been 69 per cent higher than in the twenty years before the war.

Oats are only 29 per cent higher than the twenty year average before the war. The major use of oats was for horse feed. With the permanent decrease in the number of horses, it seems that oats will remain cheap permanently.

Barley prices in the past five years have averaged 36 per cent above the twenty year pre-war average. Because of the discontinuance of the demand for brewing purposes, barley may be expected to remain cheap relative to corn.

Wheat prices have increased 58 per cent, and rye 46 per cent.

Hay prices have increased only 32 per cent. In New York they have increased only 8 per cent.

TABLE I. FARM PRICES IN IOWA. NEW YORK AND THE UNITED STATES, DECEMBER 1, 1895-1928.

	Average farm prices for the		
	Twenty years, 1895-1914	Five years, 1924-1928	Per cent increase
Wheat, cents per bushel			
New York	89.7	138.0	54
Iowa	71.8	120.0	67
United States	75.9	120.1	58
Rye, cents per bushel			
United States	60.2	88.0	46
Corn, cents per bushel			
New York	62.0	99.0	60
Iowa	36.4	68.2	87
United States	44.7	75.4	69
Oats, cents per bushel			
New York	40.6	54.6	34
Iowa	27.8	38.0	37
United States	32.8	42.3	29
Barley, cents per bushel			
New York	61.9	80.2	30
Iowa	42.9	60.6	41
United States	46.1	62.7	36
Tame hay, dollars per ton			
New York	12.38	13.34	8
Iowa	7.00	13.18	88
United States	9.32	13.10	32

Apparently, for the indefinite future, we may expect corn and wheat to be higher in price than formerly, when compared with rye, oats, barley, or timothy hay. There is little prospect for good prices of the latter crops. Farmers appreciate this and are doing some shifting to corn and wheat. In many areas this cannot be done, but in others more shifting is desirable. In some areas, other crops can be substituted for oats and hay.

The price of eggs in March was higher than last year, but is still below the average of all farm products. Many of those who stored eggs last year lost money. Some persons have thought that eggs would be cheaper this spring than last year, but the supply of eggs as well as the demand for storage affects prices. The number of chickens on farms is materially less than last year.

In January, hog prices were 16 per cent above pre-war and in March 35 per cent above. The low supply of hogs, due to low prices, is now affecting the market. Last winter, beef, mutton, dairy products, and poultry were high in price, but eggs and hogs were cheap. From present prospects, it seems probable that all classes of meats and probably eggs will be high next winter.

G. F. WARREN and F. A. PEARSON

TRENDS IN JUNE AND NOVEMBER MILK PRODUCTION, 1922 to 1928

The work reported here is part of a study of the New York milk supply which is being made by the New York State College of Agriculture in cooperation with the New York Central Railroad.

The prices paid to producers of milk for the New York City market have shown an irregular but marked increase since 1922. As a result of the higher prices, milk production has also increased during this period. Spring prices, however, have increased at a more rapid rate than fall and winter prices. This is shown by figure 1 which gives the trend of June and November prices from 1922 to 1928. The average annual increase during this period was 5.6 per cent for June and only 3.8 per cent for November.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Rye bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* bu.	Hay ton	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.
January	58.2	38.5	87.4	61.2	71.4	70.6	162.0	2.25	12.3	11.74	62.7	78.5
February	59.5	39.5	89.3	63.7	72.8	71.0	170.9	2.22	12.2	12.01	65.7	83.4
March	60.5	40.1	89.0	62.9	71.5	70.7	173.8	2.18	12.4	12.03	66.9	87.5
April	62.1	40.5	88.8	64.3	72.6	72.2	173.2	2.19	12.4	12.10	68.1	93.1
May	64.7	41.2	89.8	64.9	72.1	73.1	176.3	2.27	12.6	12.23	69.6	97.8
June	67.7	41.8	90.8	64.5	73.5	75.7	175.6	2.31	12.7	12.33	69.4	95.9
July	69.2	41.7	87.4	61.4	72.3	79.0	167.4	2.30	12.7	12.00	74.3	91.8
August	70.9	40.1	85.0	57.3	69.9	77.6	170.7	2.30	12.5	11.56	88.7	96.7
September	73.3	39.1	87.4	59.1	72.0	74.6	170.7	2.29	12.2	11.64	80.4	93.3
October	70.1	39.0	87.4	60.2	73.3	72.7	167.4	2.26	12.1	11.62	69.2	85.0
November	63.4	38.6	88.0	60.1	73.4	71.6	162.2	2.24	12.1	11.64	60.0	76.3
December	58.4	38.9	86.0	60.6	74.2	71.3	154.9	2.29	12.2	12.35	60.7	72.2
Average	64.8	39.9	88.0	61.7	72.4	73.3	168.8	2.26	12.4	11.94	69.6	87.6
1914	72.7	40.3	86.2	50.7	68.5	78.3	132.2	2.25	10.6	11.32	69.3	86.5
1915	72.4	45.1	112.9	57.4	93.0	83.1	157.4	2.88	8.9	10.57	52.5	82.2
1916	75.7	43.6	117.3	66.0	93.2	89.6	198.6	4.25	13.5	10.54	103.8	80.1
1917	141.4	63.4	201.2	107.4	156.0	154.2	281.4	7.29	21.5	13.42	189.9	121.0
1918	150.4	76.8	203.7	124.6	178.4	177.8	358.3	6.20	29.5	18.10	115.7	143.0
1919	156.6	69.4	214.7	105.4	141.3	156.6	402.2	4.41	29.6	20.61	139.4	156.9
1920	144.2	79.7	224.1	120.2	161.1	162.8	361.5	4.08	32.1	21.26	249.5	175.7
1921	57.8	36.1	119.0	50.8	103.6	110.2	150.8	2.84	12.3	12.96	103.8	118.7
1922	58.5	35.8	103.2	50.2	74.5	89.6	205.1	3.70	18.9	11.68	96.7	104.8
1923	80.1	41.5	98.9	56.2	64.4	95.2	235.5	4.01	26.7	12.29	84.1	104.4
1924	91.2	47.3	110.5	67.9	77.3	103.1	218.3	3.57	27.6	13.28	87.0	137.0
1925	99.9	44.5	151.0	71.0	99.3	104.2	244.4	3.94	22.1	12.54	113.9	171.6
1926	69.9	38.9	135.1	55.3	80.2	86.1	207.1	3.17	15.1	13.06	185.7	156.3
1927	78.8	44.9	120.5	67.1	86.2	88.4	195.9	3.07	15.9	12.00	132.3	114.0
1928	89.1	49.0	113.4	69.3	93.1	93.4	196.0	4.06	18.6	10.63	82.9	112.3
1928												
March	86.2	54.5	121.6	79.4	96.0	90.2	194.8	3.86	17.8	10.19	113.2	109.6
April	91.9	56.9	129.2	81.3	99.8	94.8	198.4	4.26	18.7	10.29	116.8	115.1
May	102.5	62.0	144.3	84.5	111.5	102.3	210.5	4.35	20.1	10.70	103.3	121.4
June	102.2	61.4	132.0	81.7	106.8	109.0	209.0	4.46	19.7	11.01	83.6	124.7
July	102.4	56.2	118.1	77.6	99.2	108.0	195.5	4.61	21.0	10.86	77.9	119.5
August	98.2	38.4	95.2	58.9	83.6	98.1	181.7	4.27	18.8	10.39	73.1	131.0
September	95.1	36.7	94.4	54.1	81.8	92.6	181.6	3.74	17.6	10.59	64.8	120.9
October	84.7	39.0	98.7	55.2	87.1	84.5	198.1	3.95	18.1	10.60	58.0	111.2
November	75.4	39.8	97.1	54.5	86.3	84.8	198.1	4.12	17.8	10.89	56.9	100.2
December	76.1	42.5	98.2	55.0	87.2	88.7	205.4	4.51	18.0	11.23	57.7	101.8
1929												
January	80.2	43.7	98.5	56.2	87.9	91.2	211.1	4.75	17.9	11.61	58.9	104.2
February	86.8	47.0	104.2	60.5	91.5	94.3	218.4	5.08	18.0	12.06	59.5	113.7
March	88.7	46.6	104.7	60.1	91.5	94.1	219.2	5.00	18,8	12.37	58.4	117.0

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Rye	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Pota-toes	Sweet pota.
1914	112	101	98	82	95	107	78	100	85	95	100	99
1915	112	113	128	93	128	113	93	127	72	89	75	94
1916	117	109	133	107	129	122	118	188	109	88	149	91
1917	218	159	229	174	215	210	167	323	173	112	273	138
1918	232	192	231	202	246	243	212	274	238	152	166	163
1919	242	174	244	171	195	214	238	195	239	173	200	179
1920	223	200	255	195	223	222	214	181	259	178	358	201
1921	89	90	135	82	143	150	89	126	100	109	149	136
1922	90	90	117	81	103	122	122	164	152	98	139	120
1923	124	104	112	91	89	130	140	177	215	103	121	119
1924	141	119	126	110	107	141	129	158	216	111	125	156
1925	155	111	172	115	137	142	145	174	179	105	166	196
1926	108	97	154	90	111	117	123	140	122	109	267	178
1927	122	113	137	109	119	121	116	136	128	101	190	130
1928	138	123	129	112	129	127	116	180	150	89	119	128
1928												
March	142	136	137	126	134	128	112	177	144	85	169	125
April	148	140	145	126	137	131	115	195	151	85	172	124
May	158	150	161	130	155	140	119	192	160	87	148	124
June	151	147	145	127	145	144	119	193	155	89	120	130
July	148	135	135	126	137	137	117	200	165	91	105	130
August	138	96	112	103	120	126	106	186	150	90	82	135
September	130	94	108	92	114	124	106	163	144	91	81	130
October	121	100	113	92	119	116	118	175	150	91	84	131
November	119	103	110	91	118	118	122	184	147	94	95	131
December	130	109	114	91	118	124	133	197	148	91	95	141
1929												
January	138	114	113	92	123	129	130	211	146	99	94	133
February	146	119	117	95	126	133	128	229	148	100	91	136
March	147	116	118	96	128	133	126	229	152	103	87	134

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	34.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70 2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	35.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.84	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1928	146.2	82	21.2	30.3	44.0	89.75	9.14	11.76	7.66	12.09	36.1	8.75
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62
March	177	85	20.1	23.4	43.9	87.95	8.81	11.34	7.85	12.31	35.4	7.48
April	183	85	20.8	22.8	44.0	88.55	8.92	11.18	8.11	12.73	35.6	7.75
May	191	86	21.5	24.2	42.0	89.00	9.09	11.18	8.09	13.03	37.0	8.82
June	189	86	21.5	23.9	42.2	89.90	9.10	11.56	7.84	13.18	38.7	8.70
July	156	85	21.9	25.6	42.4	90.37	9.19	11.87	7.56	12.25	37.6	9.64
August	106	84	21.6	27.4	42.8	90.43	9.51	12.32	7.53	11.88	37.0	10.01
September	97	82	22.3	31.4	44.3	92.56	9.96	13.05	7.58	11.97	36.5	11.17
October	99	80	22.0	34.9	45.2	92.86	9.63	12.62	7.50	11.57	36.0	9.55
November	108	79	21.5	39.6	45.6	93.05	9.27	11.99	7.50	11.50	35.9	8.51
December	118	78	21.2	42.9	46.3	92.87	8.94	11.82	7.29	11.41	35.6	7.93
1929												
January	124	77	21.6	33.0	45.3	91.54	8.97	12.20	7.84	12.23	35.9	8.18
February	130	79	22.1	31.9	45.2	91.77	8.89	12.17	7.98	12.60	35.9	8.88
March	134	83	22.7	28.0	45.2	92.80	9.16	12.51	8.36	13.12	35.5	10.00

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1928	154	58	184	140	172	183	172	172	167	204	203	121
1928												
March	163	59	179	109	169	180	167	164	164	198	189	101
April	160	58	181	133	173	179	162	165	160	197	198	102
May	156	60	182	145	170	180	165	170	163	202	208	122
June	154	59	182	143	180	181	167	171	165	209	221	122
July	152	60	184	153	185	184	172	176	166	201	215	133
August	134	60	180	159	181	183	177	179	170	210	208	134
September	138	59	187	163	179	187	186	186	173	213	211	147
October	143	58	186	157	175	186	181	180	174	210	211	129
November	149	58	189	155	171	186	178	173	176	210	209	122
December	153	58	196	143	164	186	171	171	167	201	206	118
1929												
January	128	55	202	111	160	194	178	180	170	211	194	116
February	126	55	203	121	166	192	174	180	175	212	194	125
March	124	58	203	130	175	190	173	181	175	211	190	135

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buckwheat bu.	Beans bu.	Hay ton	Potatoes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1928	110	62	145	89	97	4.85	10.08	97	160	133
1928										
March	105	61	141	90	95	4.47	9.80	130	195	132
April	112	66	153	98	97	4.92	9.80	135	195	136
May	119	76	180	105	105	5.10	9.90	130	200	135
June	118	77	172	110	115	5.28	10.30	100	200	140
July	115	76	160	99	118	5.34	9.70	75	220	137
August	115	60	129	90	104	5.13	9.70	75	120	135
September	116	51	131	77	94	4.74	10.00	80	95	132
October	113	50	138	75	88	4.80	10.50	75	100	129
November	107	53	138	77	89	5.01	10.70	65	125	134
December	102	54	138	77	92	5.43	10.70	65	135	133
1929										
January	103	55	133	76	94	5.49	10.90	65	140	131
February	110	58	136	81	98	5.82	11.40	60	145	132
March	110	58	137	80	99	5.94	11.10	55	155	137

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buckwheat	Beans	Hay	Potatoes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1928	147	129	146	116	129	204	65	137	195	75
1928										
March	148	130	141	117	134	194	63	191	217	75
April	158	135	153	127	133	216	64	196	189	75
May	163	152	180	133	140	217	63	181	177	76
June	157	151	169	138	149	226	63	143	204	78
July	151	149	158	127	140	221	61	109	250	78
August	149	118	134	117	128	209	66	85	174	76
September	143	104	136	101	124	192	66	90	153	75
October	143	106	142	100	119	197	69	109	164	73
November	139	115	142	103	124	208	72	116	192	77
December	136	115	141	103	128	223	70	102	182	76
1929										
January	143	122	134	101	132	235	71	102	173	76
February	155	123	136	108	136	249	75	87	167	75
March	155	123	137	104	139	257	71	81	172	78

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.	c.	c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1 79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	59.4	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	55.6	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	53.6	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	52.3	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	54.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	50.7	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	46.0	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1928	26.3	40	46.9	50	2.66	126.92	13.37	7.60	6.11	12.51	42	9.68
1928												
March	26.8	32	36.4	50	2.53	130.00	13.20	7.00	6.30	13.00	39	8.60
April	26.3	28	34.8	50	2.30	128.00	12.60	7.50	6.30	13.00	42	8.60
May	26.6	26	35.7	49	2.21	123.00	12.20	7.50	5.90	13.20	42	9.40
June	27.1	30	37.4	48	2.11	124.00	12.90	7.60	6.00	14.40	44	9.40
July	26.3	33	40.4	49	2.33	126.00	13.20	7.60	6.70	12.90	43	9.70
August	26.3	38	46.5	49	2.68	124.00	13.70	7.80	6.10	12.50	43	10.30
September	26.6	43	55.8	51	2.83	128.00	14.50	8.20	5.90	12.40	44	11.40
October	26.3	50	65.1	51	2.94	130.00	14.40	8.30	6.00	11.60	43	11.00
November	26.3	57	67.0	52	3.13	130.00	13.80	8.00	6.10	11.40	44	10.20
December	26.3	55	53.3	53	3.09	130.00	13.80	7.80	5.90	11.60	43	9.70
1929												
January	26.8	43	46.6	52	3.05	128.00	14.10	8.00	6.70	13.10	42	9.50
February	27.3	40	45.8	51	3.02	129.00	14.60	8.00	7.00	13.70	42	10.00
March	27.4	40	39.1	51		131.00	14.10	7.80	6.40	14.00	42	10.00

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	173	152	155	127	127	101	108	140	95	116
1922	186	143	162	135	133	120	122	96	118	169	143	119
1923	174	146	156	158	150	130	128	99	131	184	195	109
1924	160	139	152	148	128	121	130	100	136	187	200	110
1925	170	154	157	155	153	137	136	108	149	202	210	154
1926	180	143	147	155	156	162	142	108	139	192	176	161
1927	173	136	134	161	166	196	146	116	140	187	162	140
1928	178	143	136	161	167	227	161	139	145	196	200	127
1928												
March	189	114	141	161	151	232	158	135	147	201	186	111
April	178	133	155	167	158	227	163	140	138	191	200	110
May	179	137	157	169	186	221	166	133	137	202	210	124
June	178	150	153	171	197	218	164	138	142	217	220	127
July	173	150	149	181	185	223	162	139	161	196	205	130
August	166	152	151	175	177	219	162	138	142	198	215	133
September	171	159	152	170	178	224	166	145	145	201	210	144
October	170	167	144	165	164	232	163	145	148	193	205	139
November	181	163	122	163	166	231	157	147	155	189	210	137
December	191	134	108	156	162	230	158	143	136	188	205	132
1929												
January	197	113	117	153	161	238	167	152	160	204	191	128
February	195	125	134	155	166	237	174	151	166	214	191	133
March	193	143	151	165		234	169	150	150	217	200	129

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[1] Monthly average price of the highest grade of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, closely selected extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net pool price. (+8c for fat −3c for freight).

Wholesale Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mixed feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26 66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29 18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34 00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40 33	44.09
1928	45.54	44.93	42.80	45.38	37.99	39.39	41.31	56.80	58.95	75.68	45.45	47.08
1928												
March	45.85	44.60	42.50	48.55	44.25	43.88	44.56	56.93	59.38	74.80	47.22	47.87
April	46.83	44.60	43.13	50.46	41.94	41.94	45.63	58.13	64.51	74.30	47.82	49.06
May	48.32	44.60	47.30	53.86	43.15	45.20	46.25	57.70	70.70	75.80	49.66	52.89
June	46.56	44.60	45.00	54.00	36.94	42.56	44.00	56.33	70.00	75.80	48.07	50.86
July	47.49	44.60	44.50	53.72	34.85	39.94	42.50	54.50	60.98	75.80	46.58	49.45
August	47.25	45.43	43.00	37.85	31.50	31.88	38.25	54.70	55.00	75.80	42.65	44.96
September	46.48	45.80	41.25	36.40	31.94	34.25	36.13	54.58	50.18	75.80	41.97	44.58
October	46.42	45.70	39.30	37.00	34.75	36.00	37.60	58.00	54.81	75.80	43.14	45.53
November	42.23	45.55	40.63	38.35	38.00	38.50	39.13	61.10	55.35	75.80	43.84	44.77
December	40.99	45.50	42.63	40.90	39.06	39.06	41.00	61.80	55.80	75.80	44.55	44.53
1929												
January	43.84	44.35	41.30	42.46	38.00	37.95	40.70	61.60	55.55	74.80	44.39	44.80
February	45.11	50.34	41.38	43.40	36.69	36.56	40.00	61.80	55.13	73.80	46.13	45.33
March	44.59	49.85	40.00	40.98	34.69	34.63	38.50	61.43	54.25	73.80	44.92	44.81

Index Numbers (corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1928	156	156	152	141	153	152	157	168	181	144	156	148
1928												
March	172	152	159	153	169	168	164	171	186	143	163	153
April	169	160	164	156	163	163	172	174	198	142	167	155
May	168	163	174	165	171	177	177	174	216	145	173	166
June	163	162	164	163	159	171	173	175	213	145	169	160
July	161	169	161	160	149	154	167	169	185	145	165	154
August	150	154	145	114	127	117	145	159	161	145	142	137
September	142	150	132	113	129	126	135	154	147	143	138	135
October	151	159	133	119	147	140	144	168	171	142	149	142
November	141	160	141	123	159	153	150	179	175	141	153	140
December	142	154	152	131	158	154	155	180	177	141	154	141
1929												
January	159	146	148	137	146	145	151	178	169	144	151	143
February	165	164	149	136	140	139	148	178	172	141	156	144
March	167	170	150	129	133	133	142	185	170	141	155	144

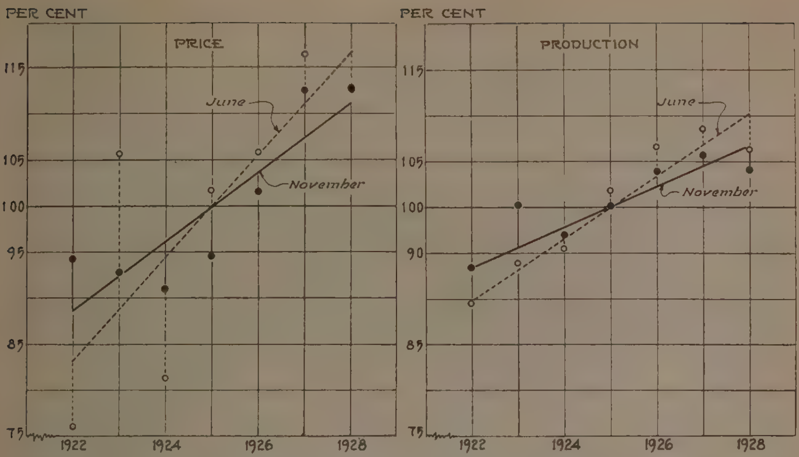

FIGURE 1. TRENDS IN JUNE AND NOVEMBER PRICES AND PRODUCTION OF MILK FOR THE NEW YORK MARKET, 1922 to 1928*
June prices have increased more than November prices with the result that June production has increased more than November production

TABLE 1.—TRENDS IN JUNE AND NOVEMBER AVERAGE DAILY PRODUCTION PER DAIRY, 1922 to 1928, IN PERCENTAGES OF THE AVERAGES FOR THE PERIOD*

15,510 approved dairies grouped by ratios of November production to June production

Ratio of November production to June production	Number of dairies	Average annual increase in production	
		June	November
		Per cent	Per cent
Less than 50 per cent	5,834	3.03	2.73
50 to 69 per cent	5,861	3.50	3.64
70 per cent and over	3,815	2.86	2.24
All	15,510	3.37	2.17

*Data obtained through the courtesy of the New York milk dealers and the Dairymen's League Co-operative Association, Inc.

The same figure also shows the trend of production in these two months for 15,310 approved dairies supplying the New York market. As might well be expected, June production has increased more rapidly than November. The average annual June increase was 11.1 pounds per day per dairy, or 3.37 per cent, while November was only 4.1 pounds, or 2.17 per cent. Had November prices increased as rapidly during this period as June prices, the average daily production per dairy would probably have been about 12 pounds higher than it now is.

Table 1 shows the trend in June and November production for these same dairies divided into three groups according to the degree to which winter dairying was followed. Although there are slight differences in the rates of increase, they appear due to chance grouping of dairies. For example, the production of the intermediate group of dairies increased faster than that of either the summer or winter dairies, whereas the intermediate group should fall between the summer and winter dairies if there were any significant relation.

These data indicate that both summer and winter dairies are responding to the relatively higher summer prices by increasing summer production more than winter production.

H. A. Ross

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*Average production of 15,510 approved dairies and weighted average prices expressed as percentages of the average for the period.

MILK MANUFACTURED IN NEW YORK STATE DURING THE SHORTAGE PERIOD

The work reported here is part of a study of the New York milk supply which is being made by the New York State College of Agriculture in cooperation with the New York Central Railroad.

The milk supply of creameries and cheese factories is low during the month of November because it is largely derived from summer dairies. Despite this fact, the average daily receipts of milk at New York State manufacturing plants, not approved for New York City shipment, amounted to 13,910 forty-quart cans in November, 1927. Seventy-three per cent of this amount was produced in 12 counties, so most of the supply is fairly well concentrated (table 1 and figure 1) . Approximately one-half was delivered to plants on railroads, and the rest was manufactured in small plants at varying distances from shipping points. Most of these plants were cheese factories.

TABLE 1.—AVERAGE DAILY RECEIPTS OF MILK FOR MANUFACTURE AT NEW YORK STATE PLANTS DURING NOVEMBER, 1927*

County	Plants	Daries	40-quart cans of milk
St. Lawrence	53	2,042	2,051
Jefferson	27	1,058	1,503
Cattaraugus	21	949	1,257
Oneida	25	565	835
Oswego	10	711	750
Allegany	22	690	576
Chenango	4	243	575
Clinton	4	444	568
Chautauqua	6	476	566
Lewis	20	407	494
Madison	6	234	471
Greene	4	361	463
All others	72	3,878	3,801
Total	274	12,058	13,910

*Data obtained through the courtesy of milk manufacturing companies and the Department of Agriculture and Markets of the State of New York.

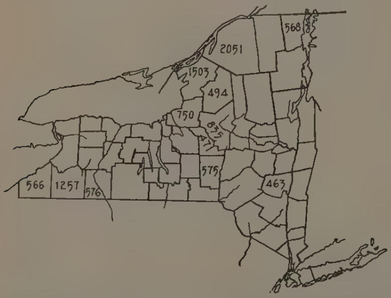

FIGURE 1.—FORTY-QUART CANS OF MILK DELIVERED DAILY TO MANUFACTURING PLANTS DURING NOVEMBER, 1927. (Counties with less than 400 cans per day omitted).

Over 10,000 cans of milk per day were manufactured during the shortage period in 1927. A part of this milk could be made available for New York City before next November

Probably, part of the supply represented by these 13,910 cans has been diverted to New York City during the past year, and part is probably not suitable for that purpose. However, there is still a very large supply of milk which was manufactured last November that could be made available before the shortage period this fall.

Despite the temporarily reversed relationship of cheese and fluid milk prices last spring, the manufacturing market cannot compete permanently with the New York City fluid milk market. This supply will eventually be approved for city shipment, and it would be well to make as much of it available before November, 1929 as is possible.

H. A. Ross

CREAM PRICES AT NEW YORK

During the past several years, large quantities of fresh cream have been shipped from Wisconsin, Minnesota, Iowa and other midwestern states to eastern markets. Since January, 1926, western cream has been excluded from New York City by the Department of Health, which has not approved any plants beyond the western border of Pennsylvania as sources of milk or cream for the city. Western cream continues to be sold in Jersey City, Newark and other cities in New Jersey which form part of the New York milk and cream market. Due to the more limited supply of cream approved for New York City, and to its higher sanitary quality and fresher condition, the nearby, or "inspected" cream has sold consistently at a premium over the western or "uninspected" cream. Since May, 1927, when the quotations were first issued by the United States Department of Agriculture, the average monthly premium of New York inspected cream over uninspected cream has varied from $0.88 to $7.75 per 40-quart can. The largest premium was paid in February, 1929, when there was a shortage of "inspected" cream. The smallest premium was paid in March, 1928, when the available supply of inspected cream was much in excess of the market requirements. For the calendar year 1928, the premium on "inspected" cream averaged $3.21 (table 1).

TABLE 1. CREAM PRICES AT NEW YORK

Average of Weekly High and Low Quotations Per 40-quart Can from United States Department of Agriculture Market News Service

	Inspected cream			Uninspected cream			Premium for inspected cream
Date	Low	High	Average	Low	High	Average	
1927							
May*	$23.00	$26.50	$24.75	$19.00	$19.00	$19.00	$5.75
June	20.44	25.25	22.85	18.88	19.25	19.06	3.79
July	22.20	25.50	23.85	18.20	20.00	19.10	4.75
Aug.	23.00	25.50	24.25	19.56	20.50	20.03	4.22
Sept.	23.75	26.88	25.31	19.94	20.88	20.41	4.90
Oct.	25.55	27.60	26.58	22.03	22.45	22.24	4.34
Nov.	27.07	30.00	28.54	21.69	22.56	22.13	6.41
Dec.	27.00	28.60	27.80	22.80	23.95	23.38	4.42
1928							
Jan.	21.75	28.00	24.88	20.25	21.50	20.88	4.00
Feb.	21.38	25.75	23.57	19.88	21.50	20.69	2.88
Mar.	20.00	24.75	22.38	20.10	22.90	21.50	.88
Apr.	20.00	24.56	22.29	19.88	21.44	20.66	1.63
May	20.13	24.75	22.44	20.50	22.06	21.28	1.16
June	19.20	24.75	21.98	19.40	20.70	20.05	1.93
July	23.94	25.88	24.91	21.63	23.13	22.38	2.53
Aug.	25.25	27.19	26.22	22.13	23.88	23.00	3.22
Sept.	25.45	27.35	26.40	21.80	23.50	22.65	3.75
Oct.	24.69	27.75	26.22	20.95	23.13	22.04	4.18
Nov.	27.25	31.00	29.13	22.75	23.94	23.35	5.78
Dec.	27.70	32.40	30.05	22.85	24.20	23.53	6.52
Year 1928	23.06	27.01	25.04	21.01	22.66	21.83	3.21
1929							
Jan.	28.00	30.38	29.19	21.13	22.56	21.85	7.34
Feb.	28.00	32.25	30.13	21.88	22.88	22.38	7.75
Mar.	26.60	29.55	28.08	22.00	23.02	22.51	5.57

*Based on quotations for last week in May, only.

LELAND SPENCER

PRICES AND YIELDS OF APPLE VARIETIES

The wholesale prices of the different varieties of apples on the New York market were tabulated from the Producers' Price Current (table 2). To facilitate comparisons, the relative prices for the different varieties were calculated for each ten-year period by expressing the average price of Baldwins for the same months in the ten-year period as 100. Baldwin was used as a standard because 46 per cent of all the apples sold from the Newfane-Olcott farms from 1922 to 1926 were Baldwins.

From 1919 to 1928, McIntosh, R. I. Greening, and Northern Spy sold better on the New York wholesale market relative to Baldwin than they sold in previous years (table 1). The other varieties did not sell so well compared to Baldwin during the last nine years as formerly. From 1919 to 1928, McIntosh was the highest priced apple, averaging 55 per cent above Baldwin. Prices of Northern Spy, Snow, and R. I. Greening were more than 14 per cent better than Baldwin. A barrel of Ben Davis or a barrel of Roxbury Russets sold on the average for only three-quarters as much as a barrel of Baldwins. Tolman Sweet and Hubbardston brought 13 and 12 per cent less than Baldwin.

TABLE 1. RATIO OF THE PRICE OF 20 VARIETIES OF APPLES TO THE PRICE OF BALDWINS
Based on Wholesale Prices of Barreled Apples at New York City from 1879 to 1928.*

Variety	1879 1889	1889 1899	1899 1909	1909 1919	1919 1928	Per cent change 1879-1899 to 1909-1928**
Baldwin	100	100	100	100	100	
Trend upward						
1 Northern Spy	100	105	104	113	117	+12
2 R. I. Greening	98	110	105	109	115	+ 8
3 McIntosh	—	—	147	142	155	+ 5
Trend downward						
4 Fall Pippin	101	112	108	109	103	0
5 Tolman Sweet	—	—	88	93	87	− 1
6 Winesap	—	121	122	117	106	− 8
7 Twenty Ounce	113	123	112	109	96	−13
8 Roxbury Russet	91	88	82	80	75	−13
9 Pound Sweet	112	116	97	96	99	−14
10 Hubbardston	—	106	95	92	88	−15
11 York Imperial	—	126	116	107	101	−17
12 Fameuse (Snow)	152	133	121	119	116	−18
13 Alexander	120	155	141	125	100	−18
14 E. Spitzenburg	125	126	121	109	95	−19
15 Maiden Blush	115	128	114	104	93	−19
16 Tompkins King	130	130	119	107	99	−21
17 Gravenstein	128	145	130	115	93	−24
18 Wealthy	—	—	136	120	100	−26
19 Jonathan	—	—	146	137	105	−28
20 Ben Davis	122	113	99	84	74	−33

*The high and low quotations in the Saturday edition of the Producers' Price Current were averaged by months for each variety. The sum of the averages were compared with Baldwin prices for the same months. The actual price of Baldwin from October 1 to June 1 was 1879-1889, $2.59; 1889-1899, $2.90; 1899-1909, $2.90; 1909-1919, $3.62; and 1919-1928, $4.79. The purchasing power of Baldwins on a 1910 to 1914 base was 92, 122, 103, 91 and 93 respectively for each period.

**The per cent change of McIntosh, Tolman Sweet, Wealthy, and Jonathan is from 1899-1909 to 1919-1928.

From 1889 to 1899, all the varieties except Roxbury Russet sold better than Baldwin, but during the last nine years only eight of the twenty varieties sold better than Baldwin (table 1.)

The average purchasing power of Baldwins increased from 92 during the period 1879-1889 to 122 during the 10 years, 1889-1899 (figure 1). Thereafter, the purchasing power of Baldwins decreased to 86 for the 10 years, 1911-1921. Since then the purchasing power of Baldwin apples has increased slightly.

TABLE 2. WHOLESALE PRICES OF BALDWIN APPLES PER BARREL IN NEW YORK CITY**
1853-54 to 1927-28.

Season	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average Oct. May
1879-80 to 1888-89	1.84	1.96	2.12	2.36	2.44	2.68	2.82	2.95	3.39	—	2.59
1889-90 to 1898-99	1.80	1.81	2.23	2.71	2.80	3.20	3.28	3.47	3.65	3.88	2.90
1899-1900 to 1908-09	1.80	2.05	2.41	2.50	2.60	3.01	3.26	3.54	3.80	3.85	2.90
1909-10 to 1918-19	2.81	2.60	2.91	3.19	3.53	3.88	4.05	4.28	4.70	4.48	3.62
1919-20 to 1927-28	—	3.86	4.31	4.49	4.75	4.94	5.06	5.12	5.74	5.56	4.79
1853-54		2.50	2.28	2.63	2.87	3.25					
1854-55				3.25	3.25	3.00	4.00	4.50			
1860-61									2.25	2.25	
1875-76								4.12	4.25		
1876-77							2.27	3.16	4.19		
1877-78								4.67	5.00		
1878-79			1.36	1.53	1.72	1.87	1.79	2.17	2.56		1.86
1879-80		2.37	2.35	2.62	2.60	2.84	3.03	3.28	3.79		2.86
1880-81	.87	1.29	1.47	1.90	1.81	1.83	1.59	1.81	1.87		1.70
1881-82	1.94	2.50	3.14	3.28	3.22	3.56	3.31	3.75	4.91		3.46
1882-83	2.54	2.41	2.91	3.30	3.47	3.50	3.80	3.81	4.37		3.44
1883-84	3.13	3.16	3.08	3.15	3.42	3.58	3.88	3.69	3.63		3.45
1884-85	1.63	1.50	1.60	1.77	1.93	2.69	2.88	2.56	3.78		2.34
1885-86	1.37	1.41	1.48	1.58	1.60	1.48	1.39	1.45	1.91		1.54
1886-87	1.67	1.75	1.91	2.65	2.87	3.19	3.81	4.55	4.42		3.14
1887-88	1.50	1.61	1.78	2.20	2.38	2.91	3.08	3.16	3.25		2.55
1888-89	1.88	1.56	1.47	1.12	1.13	1.26	1.42	1.42	2.00	2.69	1.42
1889-90	1.69	2.03	2.20	3.00	2.84	3.19	3.45	3.91	4.47		3.14
1890-91	2.81	2.78	3.47	4.19	4.47	4.66	4.81	4.62	4.30	5.00	4.16
1891-92	1.08	1.31	1.31	1.55	1.51	1.86	1.98	2.46	3.38	3.69	1.92
1892-93	1.31	1.62	1.97	2.25	2.25	2.56	2.69	2.56	2.96	3.62	2.36
1893-94	2.06	2.31	3.00	3.74	3.43	5.16	4.75	5.62	5.00		4.13
1894-95	1.87	1.62	1.75	2.28	2.62	3.75	3.50	3.68	3.97	—	2.90
1895-96	1.25	1.57	1.71	2.07	2.30	2.65	3.12	2.97	3.03	3.00	2.43
1896-97	—	1.05	.92	1.08	1.22	1.37	1.26	1.75	2.13	2.83	1.35
1897-98	2.12	1.93	2.40	2.72	3.15	3.09	2.95	3.00	3.12	—	2.80
1898-99	2.00	1.87	3.56	4.25	4.25	3.68	4.25	4.09	4.12	5.12	3.76
1899-00	1.62	1.62	1.85	2.28	2.44	2.81	3.30	4.18	4.25	3.37	2.84
1900-01	1.45	1.37	1.92	2.18	2.47	2.93	3.03	3.15	3.65	4.87	2.59
1901-02	—	3.43	4.31	3.90	2.44	2.81	3.28	3.68	3.95	3.37	3.48
1902-03	1.62	1.72	1.62	1.62	2.12	2.03	2.12	2.37	2.21	2.50	1.98
1903-04	1.62	1.93	1.95	1.90	2.00	2.65	2.56	2.62	2.60	2.47	2.28
1904-05	—	1.47	2.08	1.82	1.78	1.96	1.97	1.90	2.56	3.12	1.94
1905-06	2.00	2.37	3.00	3.18	3.25	4.00	4.75	5.00	5.45	5.78	3.88
1906-07	—	1.87	1.90	1.90	2.05	2.62	3.62	4.15	5.45	5.74	2.94
1907-08	2.50	2.50	2.68	2.65	2.92	3.71	3.25	3.60	2.93	1.87	3.03
1908-09	—	2.19	2.75	3.60	4.50	4.62	4.75	4.75	4.90	5.37	4.01
1909-10	—	2.53	2.65	2.70	3.06	3.25	3.47	3.62	4.50	4.44	3.07
1910-11	—	2.55	3.00	3.83	4.16	4.53	4.65	4.95	4.88	4.72	3.93
1911-12	1.75*	2.47	2.15	2.50	2.81	2.53	2.90	3.31	3.50	3.06	2.70
1912-13	—	2.09	1.88	2.03	2.19	2.47	2.40	2.72	4.05	4.06	2.46
1913-14	2.56†	2.56	3.13	3.50	4.50	4.56	4.94	4.53	4.08	3.09	3.94
1914-15	—	1.69	2.06	2.09	2.02	2.31	2.50	2.82	3.48	4.25	2.37
1915-16	1.97	2.22	2.50	2.40	2.46	2.42	2.47	2.48	2.78	3.41	2.68
1916-17	2.31†	2.06	2.75	3.05	3.50	4.18	4.53	3.97	4.31	4.65	3.56
1917-18	3.50†	3.50	4.19	4.33	4.56	4.47	4.45	5.00	5.75	6.66	4.53
1918-19	4.75*	4.38	4.77	5.50	6.06	8.03	8.20	9.38	9.65	6.50	7.00
1919-20	—	5.00	5.80	5.75	6.32	6.56	6.62	6.62	8.75	7.88†	6.38
1920-21	—	3.31	4.06	4.00	4.06	4.19	4.69	5.15	5.72	5.19	4.48
1921-22	5.50*	6.20	6.25	6.18	6.38	6.69	6.59	6.78	7.28	7.62	6.56
1922-23	2.62†	3.09	3.66	3.85	4.00	4.00	4.67	5.10	6.25	5.90	4.33
1923-24	—	3.25	3.22	3.65	3.88	4.06	3.62	3.31	3.35	3.78	3.54
1924-25	—	4.00*	4.40	5.12	5.38	5.72	5.50	5.59	6.00	5.60	5.21
1925-26	—	3.57	3.91	3.81	3.67	3.53	3.22	3.03	3.33	3.42	3.51
1926-27	—	2.68	2.41	2.50	2.94	3.34	3.40	3.15	3.63	4.25	3.01
1927-28	—	3.62†	5.12	5.62	6.09	6.38	7.25	7.31	7.31	6.42	6.09

*One week's quotation.

†Two week's quotation.

**Prices earlier than 1910 were taken from thesis by G. W. Peck, "The Prices of Apples and Pears on the New York City Market from 1853 to 1917." Cornell University. 1918. Unpublished Manuscript. From 1853 to 1875, quotations were taken from the Market Reports of the American Agriculturist. Since 1875, quotations were taken from the Saturday issue of the Producers' Price Current. The high and low quotations for each Saturday were averaged by months.

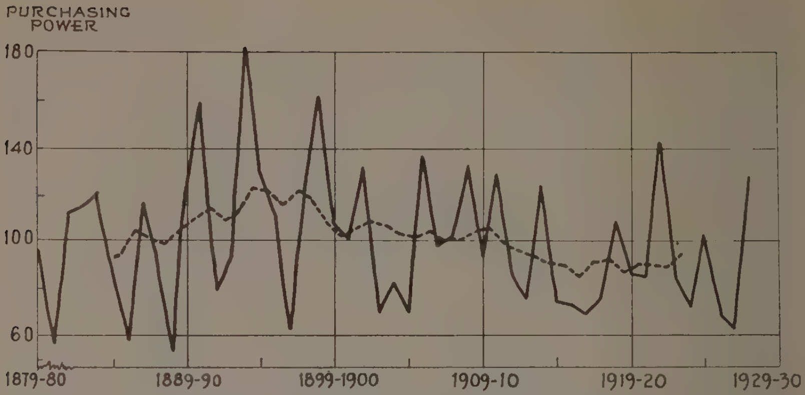

FIGURE 1. THE PURCHASING POWER OF BALDWIN APPLES IN NEW YORK CITY, 1879-80 to 1927-28

The purchasing power increased until the Nineties. Then it decreased until the 10-year average for 1911-1921 reached 86. Since then the purchasing power has increased slightly.

Yields

The yields of apple trees over 30 years old in the Newfane-Olcott area are given in table 3. The three best yielding varieties were Twenty Ounce, Baldwin, and R. I. Greening. The yields were for packed fruit and did not include culls and ciders. For all varieties combined, culls averaged 15 per cent of the tree-run fruit packed in the Newfane Cooperative Association from 1918 to 1926. The average yields seem low when compared to a normal or full crop. During this period there were two short-crop years. 1919 and 1921. Also there was no selection of orchards.

TABLE 3. AVERAGE YIELD OF APPLE TREES OVER 30 YEARS OLD BY VARIETIES, NEWFANE-OLCOTT FARMS, 1918 to 1926

Variety	Total number of trees 1918 to 1926	Bushels of packed fruit per tree
Twenty Ounce	3,022	5.50
Baldwin	157,668	5.33
R. I. Greening	82,786	5.33
Northern Spy	2,627	4.82
Tompkins King	12,436	4.78
Roxbury Russet	12,385	4.16
Tolman Sweet	2,128	4.11
E. Spitzenburg	3,006	4.05
Cranberry Pippin	2,710	4.00
Golden Russet	1,377	3.55
All varieties	288,462	5.19

For young bearing orchards, 15 to 29 years of age, Wolf River and N. W. Greening yielded the best (table 4). R. I. Greening ranked fifth and Baldwin eighth among the 28 varieties. McIntosh ranked twelfth, yielding 2.27 bushels per tree which was 83 per cent of the average yield of Baldwin and Greening trees, and 124 per cent of the average yield of Wealthy and Duchess trees. Of the 28 varieties, the yields of Delicious were the poorest. It took about 3 Delicious trees 10 to 14 years old, to yield as much as one Baldwin or R. I. Greening tree.

TABLE 4. YIELD OF APPLE TREES BETWEEN 10 AND 29 YEARS OLD BY VARIETIES NEWFANE-OLCOTT FARMS, 1918 to 1926

		Total number of trees 1918–1926			Bushels of packed fruit per tree	
	Variety	15 to 29 years	10 to 14 years	Per cent of trees in 15 to 29 year group that were 15 to 19 years old	15 to 29 years	10 to 14 years
1	N. W. Greening	733	1,050	91	4.04	3.25
2	Wolf River	2,751	2,712	77	3.92	1.82
3	Stark	1,511	2,617	93	3.01	1.39
4	York Imperial	304	416	94	2.91	2.32
5	R. I. Greening	7,576	9,733	54	2.83	0.90
6	Winter Banana	554	500	95	2.71	2.05
7	Maiden Blush	1,018	1,759	83	2.63	0.98
8	Baldwin	15,921	11,700	50	2.62	0.85
9	Tompkins King	2,357	1,747	47	2.59	0.79
10	Ontario	742	171	71	2.54	——
11	Jonathan	1,115	1,228	47	2.53	1.22
12	McIntosh	6,053	11,185	83	2.27	0.84
13	Wagener	1,635	1 006	49	2.04	1.21
14	Hubbardston	3,354	909	55	1.92	1.16
15	Duchess	19,226	22,362	78	1.87	1.19
16	Wealthy	26,071	20,499	69	1.81	1.48
17	Tolman Sweet	297	256	76	1.78	1.08
18	Yellow Transparent	221	409	90	1.77	1.69
19	Gravenstein	886	838	92	1.75	1.10
20	Ben Davis	2,559	2,062	87	1.62	1.24
21	Rome Beauty	257	1,309	88	1.60	0.82
22	Northern Spy	1,156	1 805	76	1.58	0.17
23	Twenty Ounce	697	568	74	1.15	1.20
24	Sutton Beauty	603	240	79	0.83	——
25	Perfect	715	1,007	67	0.50	0.88
26	Delicious	614	2,084	80	0.33	0.29
	All varieties	101,421	103,962	68	2.18	1.13

Net Returns per Tree

Since 1922, the average net price received for the different varieties of apples was obtained from the Newfane farmers. The average net returns per tree are based on the price for each year multiplied by the yield for the same year. R. I. Greening and Northern Spy showed the best returns per tree in orchards over 30 years old (table 5). The average yield of R. I. Greening was higher from 1922 to 1926 than from 1918 to 1926 because the yields of R. I. Greening were very low in 1919 and 1921. Twenty Ounce, Tompkins King, and Baldwin ranked next in return per tree.

For trees 10 to 29 years old, Wolf River and Stark showed the best returns. Their yields were high. McIntosh ranked third because of its very high price, which was 69 per cent above Baldwin. Northern Spy, Duchess, and Ben Davis showed the lowest returns per tree. Northern Spy yields for young trees were low. The price of Duchess and Ben Davis was only three-quarters as high as Baldwin.

Profitable Varieties

Because of its low yields, the young Delicious trees have not been a profitable variety for Western New York. Its yields have been very low in Maine, Michigan, and Ohio, as well as in Western New York. However, in number of trees planted in this area from 1921 to 1926, Delicious ranked third.[1] One of the chief assets of the Delicious is that it is an excellent pollinizer for other varieties.[2] During the last 9 years it has sold at prices 17 per cent above Baldwins.

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[1] Scoville, G. P., Recent Changes in Apple Varieties, 192 Newfane Farms, Niagara County, New York. Farm Economics, Number 54, pages 958-959, September, 1928.

[2] MacDaniels, L. H., New York State Horticultural Society, Proceedings Number 74, 1929.

Wolf River and Stark have given good returns on young trees, but they are not now selling so well as formerly. During the past nine years compared to the preceding ten, Stark sold 8 per cent lower and Wolf River 23 per cent lower relative to Baldwin.

Twenty Ounce and Tompkins King have given good returns on old trees, but the price is decreasing.

Northern Spy has yielded well on old trees, and its price trend has been upward. It comes into bearing late. It blooms very late in the season and MacDaniels finds that it requires cross pollination.. Therefore it is essential, if one desires to plant Northern Spy, to mix other late-blooming varieties such as Rome Beauty with it.

Baldwin has increased in price relative to all other varieties except McIntosh, R. I. Greening, and Northern Spy. The yields have been good and have been much less variable from 1918 to 1926, for the region as a whole, than those of R. I. Greening. There was only one variety, Roxbury Russet, whose yields were less variable than those of Baldwin. However, Baldwin may show alternate bearing in the individual orchard.

TABLE 5. NET RETURNS PER TREE FOR IMPORTANT APPLE VARIETIES
Newfane-Olcott Farms 1922 to 1926

Variety	Average bushels of packed fruit per tree	Average farm price per bushel (package deducted)	Average of the net returns per tree by years
Trees 30 years and over			
R. I. Greening	6.02	$0.79	$4.53
Northern Spy	4.77	0.93	4.34
Twenty Ounce	5.15	0.81	4.08
Tompkins King	4.73	0.88	4.07
Baldwin	5.45	0.77	3.97
Roxbury Russet	4.25	0.74	3.15
Spitzenburg	4.05	0.79	3.14
Tolman Sweet	4.11	0.70	2.83
Cranberry Pippin	3.24	0.80	2.54
Trees 10 to 29 years			
Wolf River	3.41	0.80	2.22
Stark	2.50	0.85	2.00
McIntosh	1.29	1.30	1.76
R. I. Greening	1.98	0.79	1.46
Hubbardston	1.87	0.72	1.41
Wealthy	1.80	0.74	1.28
Baldwin	1.77	0.77	1.26
Tompkins King	1.54	0.88	1.22
Maiden Blush	1.90	0.67	1.15
Ben Davis	1.65	0.59	.87
Duchess	1.61	0.56	.84
Northern Spy	.87	0.93	.80

R. I. Greening and McIntosh appear to be two of the best varieties for Western New York. The yields and prices of R. I. Greening have been good. R. I. Greening has an advantage over red varieties because under Western New York conditions it is often difficult to obtain high color. McIntosh yields were a little above the average and it sold for the highest price. McIntosh and R. I. Greening are selling even better in recent years than formerly.

Since 1921, a large number of Cortland trees have been set in this area. This variety has been highly recommended. If it proves profitable it will have an added advantage in being a satisfactory pollinizer for R.I. Greening and McIntosh.

G. P. Scoville and T. E. La Mont

AVERAGE ANALYSIS OF MIXED FERTILIZERS IN NEW YORK
1893-1927

The New York State Agricultural Experiment Station at Geneva makes chemical analysis of samples of commercial fertilizers sold in the State.[1] The average guaranteed analysis of the samples of complete fertilizer for the 35 years 1893-1927 are given in table 1 and figure 1.

TABLE 1. AVERAGE GUARANTEED ANALYSIS OF MIXED FERTILIZERS IN NEW YORK, 1893–1927.*

Year	Number of samples	Nitrogen	Available phosphoric acid	Potash	Total plant food
		Per cent	Per cent	Per cent	Per cent
1910–14	545	2.16	7.54	5.40	15.10
1893	273	2.00	7.99	3.17	13.16
1894	238	2.21	7.88	3.61	13.70
1895	300	2.16	7.92	3.96	14.04
1896	—	2.08	7.59	4.30	13.97
1897	—	1.92	7.90	4.13	13.95
1898	—	2.06	7.65	4.67	14.38
1899	482	1.83	7.87	4.48	14.18
1900	326	2.06	7.62	4.43	14.11
1901	234	1.89	7.67	4.13	13.69
1902	—	1.92	7.71	4.45	14.08
1903	377	2.04	7.67	4.55	14.26
1904	470	1.78	7.78	4.43	13.99
1905	454	2.16	7.69	4.68	14.53
1906	441	2.24	7.63	4.82	14.69
1907	445	2.28	7.53	4.81	14.62
1908	402	2.20	7.60	5.16	14.96
1909	457	2.23	7.50	5.15	14.88
1910	480	2.36	7.51	5.12	14.99
1911	490	2.06	7.55	5.18	14.79
1912	559	2.22	7.53	5.43	15.18
1913	583	2.10	7.49	5.55	15.14
1914	614	2.08	7.60	5.70	15.38
1915	549	2.20	8.22	2.90	13.32
1916	233	2.14	8.50	1.28	11.92
1917	259	2.06	8.51	1.45	12.02
1918	177	1.90	8.32	1.58	11.80
1919	171	1.79	8.24	1.59	11.62
1920	331	1.74	8.22	3.18	13.14
1921	379	2.02	8.10	3.51	13.63
1922	439	2.20	7.64	4.41	14.25
1923	399	2.26	8.15	4.70	15.11
1924	450	2.61	8.39	5.05	16.05
1925	—	—	—	—	—
1926	430	2.65	9.13	5.60	17.38
1927	474	2.79	8.50	5.34	16.63

*Data for 1925 not available.

During the period 1893-1914, there were year-to-year fluctuations in the nitrogen content, but there was no consistent tendency for the percentage of nitrogen to increase or decrease. There was a slight downward trend in the percentage of phosphoric acid. For the five years, 1893-1898, the phosphoric-acid content averaged 7.86 per cent, and for the five years just prior to the war, 7.54 per cent. The most striking change in the fertilizer analyses during the prewar period was a marked increase in the percentage of potash. For the first five years for which the data are available, 1893-1897, the percentage of potash averaged 3.83 per cent. From 1910-1914, it averaged 5.40 per cent, an increase of 41 per cent.

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[1] The data on which this study are based was taken from the following publications on the Analysis of Commercial Fertilizers, of the New York (Geneva) Agricultural Experiment Station, Bulletin, new series No. 59, 66, 73, 85, 92 and 96; and Bulletin No. 116, 134, 230, 252, 253, 266, 272, 285, 294, 304, 318, 325, 341, 354, 371, 525, 539, and 548, 1893-1927.

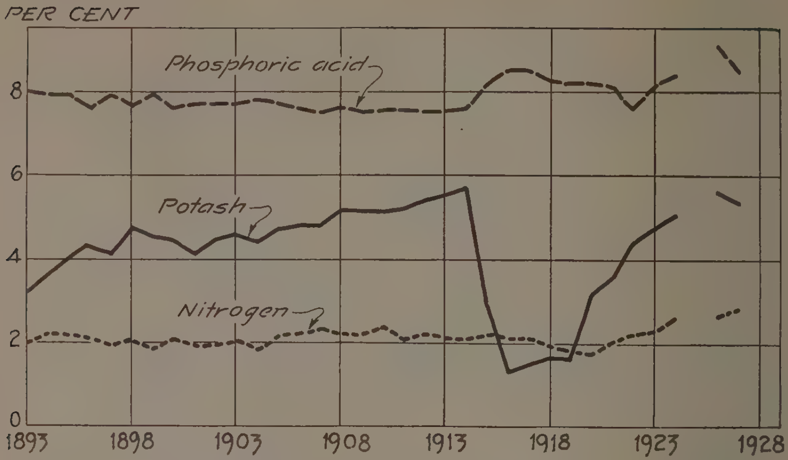

FIGURE 1.—AVERAGE GUARANTEED ANALYSIS OF MIXED FERTILIZERS IN NEW YORK, 1893–1927.

During the war, there was a violent drop in the percentage of potash. Since 1924, the percentage of nitrogen has been the highest in 35 years.

TABLE 2. INDEX NUMBERS OF THE NUMBER OF SAMPLES AND THE AVERAGE GUARANTEED ANALYSIS OF MIXED FERTILIZERS IN NEW YORK, 1893–1927.*
(1910–14 = 100)

Year	Number of samples	Nitrogen	Available phosphoric acid	Potash	Total plant food
1893	50	93	106	59	87
1894	44	102	105	67	91
1895	55	100	105	73	93
1896	—	96	101	80	93
1897	—	89	105	76	92
1898	—	95	101	86	95
1899	88	85	104	83	94
1900	60	95	101	82	93
1901	43	88	102	76	91
1902	—	89	102	82	93
1903	69	94	102	84	94
1904	86	82	103	82	93
1905	83	100	102	87	96
1906	81	104	101	89	97
1907	82	106	100	89	97
1908	74	102	101	96	99
1909	84	103	99	95	99
1910	88	109	100	95	99
1911	90	95	100	96	98
1912	103	103	100	101	101
1913	107	97	99	103	100
1914	113	96	101	106	102
1915	101	102	109	54	88
1916	43	99	113	24	79
1917	48	95	113	27	80
1918	32	88	110	29	78
1919	31	83	109	29	77
1920	61	81	109	59	87
1921	70	94	107	65	90
1922	81	102	101	82	94
1923	73	105	108	87	100
1924	83	121	111	94	106
1925	—	—	—	—	—
1926	79	123	121	104	115
1927	87	129	113	99	110

*Data for 1925 not available:

Imports of potash practically ceased during the war period. Potash was scarce and high priced. The index number of the potash content of mixed fertilizers in New York dropped from 106 in 1914 to 24 in 1916. The change in potash consumption was probably even more violent than this data would seem to indicate, since there was an increase in the use of fertilizers which contained only nitrogen and phosphoric acid. The data here given are averages for the samples which contained the three plant foods, nitrogen, phosphoric acid and potash, and therefore do not reflect the increase in the number of fertilizers that did not contain potash.

During the war period, there was a tendency for the nitrogen content to decline, and for the phosphoric acid to remain at a relatively high level.

After potash importations were resumed, the percentage of potash increased rapidly, and for the past two years, 1926-1927, averaged slightly higher than during the five-year period, 1910-1914. Since 1920, the nitrogen content of mixed fertilizers increased steadily. For the two years, 1926 and 1927, the nitrogen content averaged 2.72 units per ton, or 26 per cent more than during the five prewar years. The striking increase in the percentage of nitrogen in mixed fertilizers, to a point decidedly above prewar, has occurred not only in New York, but also in Pennsylvania New Jersey and in the New England Sates.

TABLE 3. INDEX NUMBERS OF THE WHOLESALE PRICES OF MURIATE OF POTASH SULPHATE OF AMMONIA, MINERAL AMMONIATES AND POTASH, 1914-1927.
1910-14 = 100

Year	Sulphate of ammonia	Muriate of potash	Mineral ammoniates	Potash
1914	90	104	91	104
1915	109	645	108	540
1916	127	1057	134	791
1917	157	1035	168	775
1918	164	833	184	822
1919	128	463	142	—
1920	143	325	149	333
1921	82	139	95	133
1922	91	89	101	87
1923	102	83	106	81
1924	86	83	97	81
1925	87	83	100	83
1926	85	84	98	86
1927	80	90	94	93
Average six years, 1922-27	88	85	99	85

During the post war period, the rapid increase in the percentage of potash in mixed fertilizers has been stimulated by the relatively low price of potash. For the six years period, 1922 to 1927, the price of muriate of potash has averaged only 85 per cent of prewar.

The increase in the percentage of nitrogen during the eight years 1920-1927, to the highest level in 35 years, has been stimulated not only by the relatively low prices of mineral ammoniates, but also by the decided decline of the price of sulphate of ammonia. During the six years 1922-1927, the index number of the price of mineral ammoniates averaged 99. The index number of the price of sulphate of ammonia, one of the important mineral ammoniates, averaged 88, but declined from 102 in 1923 to 80 in 1927.

During the past 35 years, the percentage of phosphoric acid in mixed fertilizers in New York remained relatively constant. The outstanding changes in the average analyses during this period have been in the potash and nitrogen content. During the agricultural depression, both have shown significant increases.

E. E. VIAL

DISTRIBUTION OF HOUSEHOLD CASH EXPENDITURES

A study was made of the relation of income and household expenditures on 54 dairy farms in Chenango Valley for the five years 1921 to 1925. On the average, these farms used $774 for cash living expenses. Approximately one-half of this amount was spent for food, one-fourth for clothing, and one-fourth for all other household expenses. The value of the house, and food and fuel from the farm is not included. Only money expenditures were studied.

As income increased, more money was spent on the household, but costs for food increased less rapidly than for clothing and other goods and services. When income increased 460 per cent, food costs increased 21 per cent; clothing and other household expenses, 42 per cent; and total expenditures, 32 per cent. The percentage that food, clothing, and other expenditures were of the total cash expenditures on these farms did not vary greatly with increased income. However, there was a tendency for the higher income groups to spend a smaller percentage for food and a greater percentage for clothing and other household expenses (table 1).

TABLE 1. RELATION OF THE FARM INCOME TO HOUSEHOLD MONEY EXPENDITURES 54 FARMS CHENANGO VALLEY, 1921 TO 1925

Farm income	Average farm income	Amount spent for				Per cent spent for		
		Food	Clothing	Other expense	Total	Food	Clothing	Other expenses
0–$1000	$583	$338	$173	$177	$688	49	25	26
$1000–$2000	1469	366	179	223	768	48	23	29
$2000 and over	3268	409	246	251	906	45	27	28
Average	$1602	$367	$194	$213	$774	47	25	28

The percentage that food was of the total expenditures varied widely from farm to farm. Those households which spent less than 44 per cent of their total expenditures for food, spent on the average $297 for food, $221 for clothing and $357 for all other household expenses. Food comprised 34 per cent of the total expenditures, clothing 25 per cent, and all other items 41 per cent. The group of households which spent between 44 and 52 per cent of money expenditures on food, spent on the average $356 in this way, or 48 per cent of the total expense. They spent $199, or 27 per cent, for clothing, and $185, or 25 per cent, for other goods and services. The total money expenditures for this group was $740 per year. Those farms which spent more than 53 per cent of their total expenditure for food, spent on the average, $442, or 62 per cent of the total, for this class of commodities. These households spent $165, or 23 per cent, of the total, for clothing; $105, or 15 per cent, for other expenses (table 2).

TABLE 2. RELATION OF THE PROPORTION OF THE FAMILY BUDGET SPENT FOR FOOD TO THE DISTRIBUTION OF THE FAMILY BUDGET, 54 FARMS, CHENANGO VALLEY, 1921-25

Per cent of total budget spent for food	Farm income	Operator's average capital	Amount spent for				Per cent spent for		
			Food	Clothing	Other expenses	Total	Food	Clothing	Other expenses
Under 44	$1783	$16500	$297	$221	$357	$875	34	25	41
44–52	1419	12800	356	199	185	740	48	27	25
53 and over	1609	11300	442	165	105	712	62	23	15
Average	$1602	$13100	$367	$194	$213	$774	47	25	28

When the percentage expenditures for food increased 82 per cent, the cash expenditures for food increased 49 per cent, clothing decreased 25 per cent, and other expenses decreased 71 per cent. The operator's average capital decreased 32 per cent and the farm income decreased slightly. As food takes an increasing proportion of the family budget, there is a decided decrease in the amount spent for articles other than food and clothing. The proportion of the budget spent for clothing is remarkably uniform.

As the per cent spent for clothing increased from 16 to 35, the food cost varied but little, while other expenses decreased from 37 to 19 per cent (table 3).

TABLE 3. RELATION OF THE PROPORTION OF THE FAMILY BUDGET SPENT FOR CLOTHING TO THE DISTRIBUTION OF THE FAMILY BUDGET. 54 FARMS, CHENANGO VALLEY, 1921-1925

Per cent of total budget spent for clothing	Farm income	Operator's average capital	Amount spent for				Per cent spent for		
			Food	Clothing	Other expenses	Total	Food	Clothing	Other expenses
20 or less	$1478	$12500	$353	$122	$278	$753	47	16	37
21-27	1706	15400	380	186	211	777	49	24	27
28 and over	1623	12500	368	274	149	791	46	35	19
Average	1602	13500	367	194	213	774	47	25	28

When the per cent of total expenditure for all goods and services other than food and clothing increased from 11 to 44, the food expenditures decreased from 59 to 36 per cent of the total expenditure, and clothing decreased from 30 to 20 per cent.

As income increased, more money was spent for goods and services other than food, but not in proportion to income. Capital and income bear a negative relation to the percentage of household expenditure for food. The less the total expenditure of these households, the greater was the proportion spent for food. As the percentage spent for food increased, other expenditure decreased more rapidly than the expense for clothing. As the percent of the total budget spent for clothing increased, food and other expenditures varied inversely. Total expenditure and percentage of the income spent for clothing varied directly. The groups which spent a higher percentage of the budget for goods and services other than food and clothing spent less for food and clothing, both absolutely and relatively, (table 4.)

TABLE 4. RELATION OF THE PROPORTION OF THE FAMILY BUDGET SPENT FOR GOODS OTHER THAN FOOD AND CLOTHING TO THE DISTRIBUTION OF THE FAMILY BUDGET, 54 FARMS, CHENANGO VALLEY, 1921-25

Per cent of total spent for other goods	Farm income	Operator's average capital	Amount spent for				Per cent spent for		
			Food	Clothing	Other expenses	Total	Food	Clothing	Other expenses
19 or less	$1568	$10600	$431	$219	$ 84	$734	59	30	11
20-29	1454	13600	374	193	185	752	50	26	24
30 and over	1788	16200	295	169	372	836	36	20	44
Average	$1602	$13500	$367	$194	$213	$774	47	25	28

MARTHA HUDGINS

SOURCES OF MILK-FAT USED IN ICE-CREAM

Milk-fat is the most expensive ingredient used in the manufacture of ice cream, and has a very important effect on its quality. The law provides for a minimum of 8 per cent of milk-fat and the maximum is fixed to a very large extent by the relatively high cost of this ingredient.

A recent study showed that ice cream plants associated with firms manufacturing and merchandising milk products, tended to vary the milk-product infredients of the ice cream according to the supply of the products on hand, and market conditions, whereas independent plants that bought milk products from other firms tended to use the same kinds of milk products thruout the year.

Nearly all ice cream manufacturers interviewed preferred cream to butter as the chief source of milk-fat. Twelve plants out of 52 used some butter regularly, altering the amount according to the supply and cost of cream. At times, the local supply of cream was not sufficient to meet the demands, and prices rose rapidly. Under these conditions, ice cream manufacturers in need of extra milk-fat frequently used butter.

The amounts of milk-fat obtained from the various milk products used in 52 New York State ice cream plants in 1926 are given in table 1.

TABLE 1. PERCENTAGE OF MILK-FAT FROM VARIOUS MILK PRODUCTS USED BY 52 PLANTS IN THE MANUFACTURE OF ICE CREAM—1926

	Per cent of total fat
Ice cream mix	41.0
Cream	38.0
Butter	9.9
Whole milk	8.0
Condensed milk	2.4
Condensed skimmilk	.6
Powder	.1
All products	100.0

Cream supplied directly about 40 per cent of the milk-fat used by the ice cream plants included in this study, and butter about 10 per cent. Cream is a more important source of fat than would appear from these figures, since a large proportion of the fat in ice cream mix also comes from cream.

Twenty of the fifty-two ice cream plants purchased some ice cream mix from other firms or received mix from their own country milk-plants. The other 32 plants combined the milk products for ice cream in the plant where the ice cream was frozen. The relative quantities of milk-fat obtained from different milk products by these plants, were compared with ice cream plants in other areas (table 2).

TABLE 2. PERCENTAGE OF THE TOTAL MILK-FAT OBTAINED FROM DIFFERENT MILK PRODUCTS BY ICE CREAM PLANTS IN THE NEW YORK STATE, NORTH ATLANTIC STATES, AND THE UNITED STATES

	New York	North Atlantic States*	United States*
Year	1926	1927	1927
Number of plants	32	80	331
	Per cent	Per cent	Per cent
Cream	62.9	72.8	63.5
Unsalted butter	17.4	8.0	20.0
Whole milk	14.3	9.6	8.8
Condensed whole milk	5.3	9.6	7.7
Total	100.0	100.0	100.0

*Data from reports by the International Association of Ice Cream Manufacturers, Harrisburg, Pa.

Of the 32 ice cream plants combining their own milk products, approximately one-half used chiefly milk, cream, and condensed milk, and the other half, miscellaneous milk products. Eight of the plants using miscellaneous milk products used powdered skimmilk and butter. The relative quantities of milk-fat obtained from various milk products by these three groups of plants are given in table 3.

The percentage of milk-fat obtained from cream and condensed milk by the 32 New York plants was about the same as the average for 331 plants thruout the United States. Whole milk supplied a larger proportion of the milk-fat used in ice cream in 32 New York State plants than in the other areas. This may be explained, in part, by the fact that two of the plants included in the New York group combined large quantities of whole milk with cream or butter, condensing the mixture in a vacuum pan. The North Atlantic group includes large ice-cream plants in New York City, governed by the Board of Health regulations prohibiting the use of butter in the manufacture of ice cream.

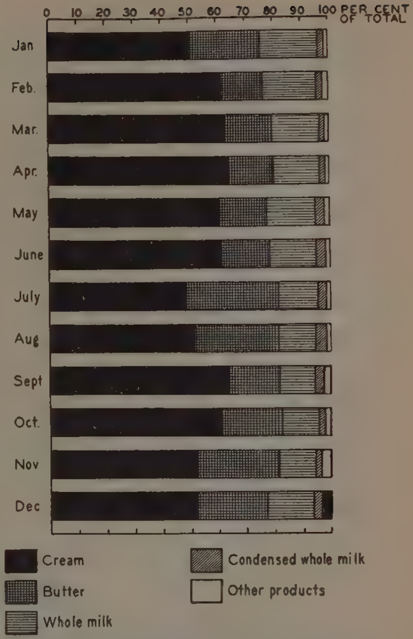

FIGURE 1. SEASONAL VARIATION IN THE PROPORTION OF FAT OBTAINED FROM DIFFERENT MILK PRODUCTS IN ELEVEN ICE CREAM PLANTS USING MISCELLANEOUS MILK PRODUCTS, 1926

Cream supplied more of the milk-fat than any other product. The amount varied from about 49 per cent in July to about 64 per cent in April and September. The amount of the total milk-fat supplied by butter varied from 15 per cent in February to about 33 per cent in July. Less fat was obtained from whole milk during the fall months than at ather seasons of the year. Relatively little fat was obtained from condensed whole milk by these ice-cream plants.

TABLE 3. PERCENTAGE OF THE TOTAL MILK-FAT OBTAINED FROM VARIOUS PRODUCTS BY ICE CREAM PLANTS, GROUPED ACCORDING TO PRINCIPAL KINDS OF MILK PRODUCTS USED, 1926

	17 plants using milk cream and condensed milk	15 plants using miscellaneous milk products	8 plants using powdered skimmilk and butter
	Per cent	Per cent	Per cent
Cream	76.0	56.6	34.5
Unsalted butter		25.8	35.7
Whole milk	16.1	13.4	26.3
Condensed whole milk	7.7	2.5	3.2
Condensed skimmilk	0.2	1.5	—
Skimmilk		0.1	0.1
Powdered skimmilk		0.1	0.2
Total	100.0	100.0	100.0

The 17 ice cream plants using chiefly milk, cream, and condensed milk obtained about three-fourths of the milk-fat from cream, whereas the 15 plants using miscellaneous milk products obtained a little over one-half of the milk-fat from cream, and about one-fourth from butter. Eight of these 15 plants used butter and powdered milk in combination with other milk products, and are grouped separately. They obtained about two-thirds of the milk-fat from equal parts of butter and cream, and about one-fourth from whole milk.

The month-to-month variation in the percentage of milk-fat obtained from different milk products by ice cream plants using miscellaneous milk products, is shown graphically in figure 1.

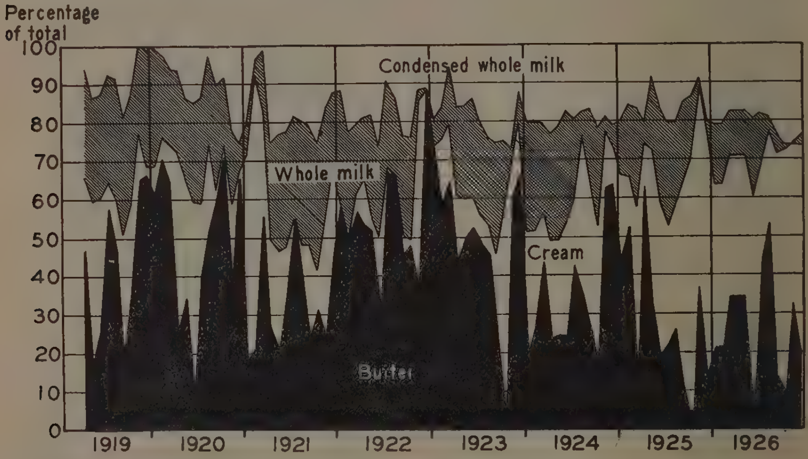

FIGURE 2. MONTHLY VARIATIONS IN THE MILK-FAT OBTAINED FROM DIFFERENT MILK PRODUCTS IN ONE ICE-CREAM PLANT FROM APRIL, 1919 TO DECEMBER, 1926.

Extreme variations occurred from month to month in the amount of milk-fat obtained from different products. In the last five years there was a marked tendency to obtain milk-fat from products other than whole milk during the months of November and December, when the supply of fluid milk is low and prices are relatively high.

Some of the ice cream plants used the same kind of milk products thruout the year, varying the proportions but little from month to month. Other plants used varying amounts of milk products according to the available supplies and costs of the products. The variations in the quantities of milk-fat obtained from different milk products by months from April 1919 to December 1926 in one of the plants included in the study, are shown graphically in figure 2. This plant represents extreme variations in the relative quantities of milk-fat obtained from different milk products.

M. C. Bond

FARM ECONOMICS

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BUSINESS CONDITIONS:—1910–14 = 100

Year	Wholesale prices of all commodities[1]	Farm prices		United States prices of food		Cost of distributing food[4]	Cost of living United States[5]	Weekly earnings N. Y. factory workers[6]	Prices of 70 indust'l stocks[7]	Interest rates 4-6 mos. comm'l. paper[8]
		New York[2]	United States[2]	Farm[3]	Retail[3]					
1913	102	97	99	100	103	104	104		96	115
1914	100	103	101	105	106	105	104	101	96	99
1915	103	100	101	106	107	105	102	104	119	71
1916	129	116	119	117	117	110	112	116	152	71
1917	180	170	180	181	156	129	131	132	140	98
1918	198	186	206	200	180	159	160	164	130	121
1919	210	206	215	213	194	174	182	190	160	112
1920	230	217	214	207	207	202	212	227	144	153
1921	150	144	119	130	163	190	180	207	118	135
1922	152	134	124	121	150	175	168	202	146	92
1923	157	142	137	124	154	177	172	220	155	102
1924	152	128	140	126	153	180	170	223	166	81
1925	162	147	154	152	169	185	175	228	221	83
1926	154	156	142	154	174	192	176	234	247	88
1927	149	151	137	145	169	190	173	236	281	83
1928	151	153	145	149	170	190	171	237	349	98
Aug., 1927	149	148	139	145	165	186	171	236	290	74
Sept.	150	155	146	146	166	191	171	238	300	69
Oct.	150	153	146	147	168	194	172	236	296	69
Nov.	150	158	145	147	166	183	172	232	304	74
Dec.	150	152	143	145	165	188	172	239	314	77
Jan., 1928	149	148	141	143	168	193	172	236	318	89
Feb.,	149	148	138	142	168	193	170	235	316	95
Mar.	149	149	141	143	168	192	169	239	327	90
Apr.	151	152	145	147	170	196	169	232	340	97
May	153	164	153	157	172	186	171	235	347	101
June	151	169	150	156	170	183	170	238	334	107
July	152	164	152	156	170	189	172	235	336	103
Aug.	153	152	145	151	171	189	171	237	347	97
Sept	155	152	146	154	174	196	173	240	365	93
Oct.	152	149	144	148	171	196	172	240	373	94
Nov	150	153	142	146	168	191	172	239	391	100
Dec.	150	147	141	143	166	198	171	243	393	104
Jan., 1929	151	145	139	141	169	202	170*	240	409	120
Feb.	150	148	142	146	173	199	168*	242	407	128
March	151	151	146	150	175	201	168*	245	415	128
April	150	152	144	149	175	202	168*	243	413	135
May		164	142	153*				242	416	135

*Preliminary figure will be revised later.

(For footnotes see Farm Economics No. 57 p 1026, February 1929.)

BUSINESS CONDITIONS

The salient features of the present situation is the high interest rates that prevail. Four-to-six months commercial paper is 35 per-cent above prewar. The high rates have resulted in severe reactions in the bond market. They have drawn foreign gold to this country and curtailed loans to foreign countries. This is making it difficult for foreigners to purchase our products.

The volume of private city building is much less than a year ago. Public building has also declined. The coal and textile industries continue to be unsatisfactory. Car loadings have declined somewhat. Iron and steel production continues to be very high and copper production is establishing new high records. Automobile production continues at a high level. The over-building and boom in the stock market are causing a considerable business reaction.

World Wheat Situation

The striking feature in the American and world agricultural situation is the decline in the price of wheat to the lowest levels in the last decade. Last year the world produced a large crop and the carry-over was also large. The large supply and the decline in per capita consumption resulted in abnormally large stocks this year.

Exports of wheat from the United States declined and those from Canada increased.

The acreage of wheat planted throughout the world in 1929 is greater than 1928. The weather has favored the crop in most parts of the world.

Farm Prices

During the spring, farm prices declined from 146 to 142. This was due to delcines in prices of grains, cotton, hay, sheep, beans, and potatoes. The decline in prices of these products was in part counterbalanced by advances in the prices of eggs, butter, beef cattle, veal calves, hogs, chickens, and horses.

In New York State, the prices of milk, poultry, and butter have been favorable for the farmers. Dairy and poultry farmers also have been favored with lower prices of food. Grain, hay, apples, and potatoes have declined in price.

The decline in grain prices has been reflected in the decline in feed prices. Gluten feed has declined about $10.00 per ton; bran, middlings, wheat-mixed feed, cottonseed meal, $6.00 to $8.00; and cornmeal, meat scrap, and oil meal $3.00 to $4.00 per ton.

The wholesale price of a dairy ration declined from $46.13 to $39.58. The index numbers declined from 156 to 138.

In May of 1928, seven dozen of the best eggs at New York City wholesale price would exchange for 100 pounds of feed at wholesale prices; this year, six dozen would buy 100 pounds of feed.

In May 1928, 100 pounds of 3.7 per cent milk in the Utica freight zone would buy 89 pounds of feed at wholesale prices. This year, it will buy 123 pounds. This favorable ratio of feed prices to milk prices, together with the need for more milk this fall, justifies the feeding of grain on pasture, so as to keep the cows in condition for fall production.

G. F. Warren and F. A. Pearson

AN OBSTACLE TENDING TO PREVENT THE ADJUSTMENT OF PRODUCTION TO DEMAND

The market is steadily demanding improved quality and improved varieties of products. The full differences in prices of superior and inferior products are generally not passed on to farmers. This failure in the marketing machinery is the primary reason for the failure of the apple growers in New York State to adjust the varieties and quality to what the consumers demand (pages 1105 to 1106).

For the five-year period 1922-26, McIntosh apples sold at wholesale in New York for $3.15 more than Hubbardston but farmers in Newfane received a difference of only $1.84.

G. F. Warren

FARM AND WHOLESALE PRICES OF DIFFERENT VARIETIES OF APPLES

Three-fifths of the apples in the Newfane-Olcott area were sold to dealers. The grower usually sold his entire crop of fall and winter fruit in one sale. Practically all of the odd, late varieties, such as Mann, Swaar, and Golden Russet, were disposed of in a sale with other varieties. Three-fourths of the Baldwin, R. I. Greening, Northern Spy, and Tompkins King apples were sold in sales with other varieties.

The summer and early fall varieties, however, were usually sold separately by the grower. Ninety per cent of the Duchess apples and 72 per cent of Wealthy apples were sold in this way.

Each dealer tended to pay the same price for all of the apples bought from a farmer, regardless of quality or grade (tables 2 and 3). Dealers paid only a small part of the premium for high quality that was paid on the wholesale market, but paid too much for the poor varieties. This was true whether a dealer bought a variety alone or in combination with other varieties. Over this five-year period, considering all varieties and grades, dealers probably paid as much as the average fruit was worth, but did not pay in accordance with the value of the different varieties.

The spread between the farm and wholesale prices was greatest for the best-selling varieties, such as McIntosh, Northern Spy, and R. I. Greening (table 2). The spread between the New York wholesale and the farm

TABLE 1—BUSHELS OF EACH OF IMPORTANT VARIETIES SOLD TO DEALER ALONE AND IN COMBINATION WITH OTHER VARIETIES, NEWFANE-OLCOTT, 1922-26

Variety	Bushels sold alone	Bushels sold with other varieties	Per cent sold with other varieties
Stark	182	2,767	94
Spitzenburg	606	3,641	86
Tompkins King	4,334	21,115	83
Roxbury Russet	3,858	14,776	79
Hubbardston	1,005	3,888	79
Tolman Sweet	763	2,685	78
Northern Spy	1,162	3,809	77
R. I. Greening	42,207	137,155	76
Baldwin	88,324	233,292	73
Cranberry Pippin	976	2,586	73
Wolf River	2,085	2,444	54
McIntosh	3,406	3,099	48
Twenty Ounce	3,442	3,117	48
Wealthy	25,557	9,944	28
Duchess	25,668	2,712	10
All others	13,383	12,183	48
Total or average	216,958	459,213	68

(*Continued on page 1105*)

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Rye bu.	Buck-wheat bu.	Flax-seed bu.	Beans bu.	Cotton* bu.	Hay ton	Pota-toes bu.	Sweet pota-toes bu.
1910-14	c.	c.	c.	c.	c.	c.	c.	$	c.	$	c.	c.
January	58.2	38.5	87.4	61.2	71.4	70.6	162.0	2.25	12.3	11.74	62.7	78.5
February	59.5	39.5	89.3	63.7	72.8	71.0	170.9	2.22	12.2	12.01	65.7	83.4
March	60.5	40.1	89.0	62.9	71.5	70.7	173.8	2.18	12.4	12.03	66.9	87.5
April	62.1	40.5	88.8	64.3	72.6	72.2	173.2	2.19	12.4	12.10	68.1	93.1
May	64.7	41.2	89.8	64.9	72.1	73.1	176.3	2.27	12.6	12.23	69.6	97.8
June	67.7	41.8	90.8	64.5	73.5	75.7	175.6	2.31	12.7	12.33	69.4	95.9
July	69.2	41.7	87.4	61.4	72.3	79.0	167.4	2.30	12.7	12.00	74.3	91.8
August	70.9	40.1	85.0	57.3	69.9	77.6	170.7	2.30	12.5	11.56	88.7	96.7
September	73.3	39.1	87.4	59.1	72.0	74.6	170.7	2.29	12.2	11.64	80.4	93.3
October	70.1	39.0	87.4	60.2	73.3	72.7	167.4	2.26	12.1	11.62	69.2	85.0
November	63.4	38.6	88.0	60.1	73.4	71.6	162.2	2.24	12.1	11.64	60.0	76.3
December	58.4	38.9	86.0	60.6	74.2	71.3	154.9	2.29	12.2	12.35	60.7	72.2
Average	64.8	39.9	88.0	61.7	72.4	73.3	168.8	2.26	12.4	11.94	69.6	87.6
1914	72.7	40.3	86.2	50.7	68.5	78.3	132.2	2.25	10.6	11.32	69.3	86.5
1915	72.4	45.1	112.9	57.4	93.0	83.1	157.4	2.88	8.9	10.57	52.5	82.2
1916	75.7	43.6	117.3	66.0	93.2	89.6	198.6	4.25	13.5	10.54	103.8	80.1
1917	141.4	63.4	201.2	107.4	156.0	154.2	281.4	7.29	21.5	13.42	189.9	121.0
1918	150.4	76.8	203.7	124.6	178.4	177.8	358.3	6.20	29.5	18.10	115.7	143.0
1919	156.6	69.4	214.7	105.4	141.3	156.6	402.2	4.41	29.6	20.61	139.4	156.9
1920	144.2	79.7	224.1	120.2	161.1	162.8	361.5	4.08	32.1	21.26	249.5	175.7
1921	57.8	36.1	119.0	50.8	103.6	110.2	150.8	2.84	12.3	12.96	103.8	118.7
1922	58.5	35.8	103.2	50.2	74.5	89.6	205.1	3.70	18.9	11.68	96.7	104.8
1923	80.1	41.5	98.9	56.2	64.4	95.2	235.5	4.01	26.7	12.29	84.1	104.4
1924	91.2	47.3	110.5	67.9	77.3	103.1	218.3	3.57	27.6	13.28	87.0	137.0
1925	99.9	44.5	151.0	71.0	99.3	104.2	244.4	3.94	22.1	12.54	113.9	171.6
1926	69.9	38.9	135.1	55.3	80.2	86.1	207.1	3.17	15.1	13.06	185.7	156.3
1927	78.8	44.9	120.5	67.1	86.2	88.4	195.9	3.07	15.9	12.00	132.3	114.0
1928	89.1	49.0	113.4	69.3	93.1	93.4	196.0	4.06	18.6	10.63	82.9	112.3
1928												
March	86.2	54.5	121.6	79.4	96.0	90.2	194.8	3.86	17.8	10.19	113.2	109.6
April	91.9	56.9	129.2	81.3	99.8	94.8	198.4	4.26	18.7	10.29	116.8	115.1
May	102.5	62.0	144.3	84.5	111.5	102.3	210.5	4.35	20.1	10.70	103.3	121.4
June	102.2	61.4	132.0	81.7	106.8	109.0	209.0	4.46	19.7	11.01	83.6	124.7
July	102.4	56.2	118.1	77.6	99.2	108.0	195.5	4.61	21.0	10.86	77.9	119.5
August	98.2	38.4	95.2	58.9	83.6	98.1	181.7	4.27	18.8	10.39	73.1	131.0
September	95.1	36.7	94.4	54.1	81.8	92.6	181.6	3.74	17.6	10.59	64.8	120.9
October	84.7	39.0	98.7	55.2	87.1	84.5	198.1	3.95	18.1	10.60	58.0	111.2
November	75.4	39.8	97.1	54.5	86.3	84.8	198.1	4.12	17.8	10.89	56.9	100.2
December	76.1	42.5	98.2	55.0	87.2	88.7	205.4	4.51	18.0	11.23	57.7	101.8
1929												
January	80.2	43.7	98.5	56.2	87.9	91.2	211.1	4.75	17.9	11.61	58.9	104.2
February	86.8	47.0	104.2	60.5	91.5	94.3	218.4	5.08	18.0	12.06	59.5	113.7
March	88.7	46.6	104.7	60.1	91.5	94.1	219.2	5.00	18.8	12.37	58.4	117.0
April	87.5	45.8	99.8	58.0	86.0	96.4	216.4	4.64	18.5	12.30	55.3	120.8
May	86.2	44.6	90.1	55.3	79.1	96.5	214.7	4.96	18.0	12.15	59.3	125.9

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Rye	Buck-wheat	Flax-seed	Beans	Cotton*	Hay	Pota-toes	Sweet pota.
1914	112	101	98	82	95	107	78	100	85	95	100	99
1915	112	113	128	93	128	113	93	127	72	89	75	94
1916	117	109	133	107	129	122	118	188	109	88	149	91
1917	218	159	229	174	215	210	167	323	173	112	273	138
1918	232	192	231	202	246	243	212	274	238	152	166	163
1919	242	174	244	171	195	214	238	195	239	173	200	179
1920	223	200	255	195	223	222	214	181	259	178	358	201
1921	89	90	135	82	143	150	89	126	100	109	149	136
1922	90	90	117	81	103	122	122	164	152	98	139	120
1923	124	104	112	91	89	130	140	177	215	103	121	119
1924	141	119	126	110	107	141	129	158	216	111	125	156
1925	155	111	172	115	137	142	145	174	179	105	166	196
1926	108	97	154	90	111	117	123	140	122	109	267	178
1927	122	113	137	109	119	121	116	136	128	101	190	130
1928	138	123	129	112	129	127	116	180	150	89	119	128
1928												
March	142	136	137	126	134	128	112	177	144	85	169	125
April	148	140	145	126	137	131	115	195	151	85	172	124
May	158	150	161	130	155	140	119	192	160	87	148	124
June	151	147	145	127	145	144	119	193	155	89	120	130
July	148	135	135	126	137	137	117	200	165	91	105	130
August	138	96	112	103	120	126	106	186	150	90	82	135
September	130	94	108	92	114	124	106	163	144	91	81	130
October	121	100	113	92	119	116	118	175	150	91	84	131
November	119	103	110	91	118	118	122	184	147	94	95	131
December	130	109	114	91	118	124	133	197	148	91	95	141
1929												
January	138	114	113	92	123	129	130	211	146	99	94	133
February	146	119	117	95	126	133	128	229	148	100	91	136
March	147	116	118	96	128	133	126	229	152	103	87	134
April	141	113	112	90	118	134	125	212	149	102	81	130
May	133	108	100	85	110	132	122	219	143	99	85	129

*Cotton prices and index numbers for August to December, inclusive, are for 1909 to 1913.

UNITED STATES

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Apples bu.	Horses head	Chickens lb.	Eggs doz.	Butter lb.	Milk cows head	Beef cattle cwt.	Veal calves cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt
1910-14	c.	$	c.	c.	c.	$	$	$	$	$	c.	$
January	96.9	139	10.7	29.6	28.4	47.25	5.04	6.78	4.60	5.79	18.5	7.03
February	103.0	143	10.9	26.3	27.2	47.75	5.11	6.77	4.55	5.95	18.5	7.12
March	108.4	144	11.2	21.5	25.9	48.90	5.29	6.92	4.79	6.22	18.7	7.41
April	114.4	146	11.5	17.1	25.4	49.42	5.50	6.76	5.07	6.46	18.0	7.59
May	122.6	144	11.8	16.7	34.7	49.44	5.50	6.59	4.96	6.46	17.8	7.23
June	122.8	145	11.8	16.7	23.5	49.64	5.44	6.77	4.75	6.30	17.5	7.16
July	102.3	142	11.9	16.7	22.9	49.04	5.33	6.74	4.56	6.09	17.5	7.25
August	79.0	141	12.0	17.2	23.6	49.33	5.36	6.89	4.42	5.66	17.8	7.47
September	70 2	140	11.9	19.3	24.7	49.41	5.35	7.03	4.37	5.63	17.3	7.61
October	69.0	138	11.8	22.3	35.8	49.84	5.32	7.03	4.30	5.50	17.1	7.38
November	72.4	137	11.4	25.5	26.7	49.98	5.21	6.95	4.26	5.47	17.2	6.97
December	77.1	136	10.8	30.0	28.3	50.03	5.22	6.92	4.37	5.68	17.3	6.72
Average	94.8	141	11.5	21.6	25.6	49.17	5.31	6.84	4.58	5.93	17.8	7.25
1914	99.9	135	12.2	22.5	25.6	59.34	6.24	7.83	4.79	6.31	17.6	7.57
1915	73.3	131	11.9	22.0	26.0	58.25	6.01	7.63	5.28	6.85	22.5	6.59
1916	90.5	131	13.3	24.6	28.2	60.95	6.48	8.33	6.31	8.19	27.6	8.20
1917	125.5	133	16.7	33.8	36.0	71.86	8.14	10.47	9.50	12.23	47.2	13.59
1918	140.5	131	20.8	39.5	43.2	83.07	9.45	11.88	10.94	13.98	57.8	15.92
1919	185.2	122	23.8	43.8	50.7	91.96	9.72	12.74	9.59	12.98	51.0	16.23
1920	207.9	120	25.5	47.9	55.1	89.54	8.47	11.81	8.42	11.94	38.1	13.02
1921	158.1	93	20.9	34.0	38.7	59.10	5.53	7.87	4.61	7.20	16.9	7.84
1922	161.0	84	19.1	28.5	35.7	53.56	5.43	7.69	6.00	9.70	29.0	8.40
1923	133.7	83	18.9	30.3	40.9	55.43	5.59	8.01	6.62	10.51	37.7	7.13
1924	127.7	76	19.2	30.4	40.0	55.48	5.60	8.13	6.78	10.72	37.3	7.48
1925	148.0	78	20.3	33.7	41.1	57.87	6.25	8.86	7.65	12.29	39.4	11.00
1926	122.3	79	21.9	31.5	41.6	65.51	6.46	9.62	7.38	11.57	33.1	11.80
1927	124.5	78	20.3	28.2	42.8	74.19	7.24	10.17	7.25	11.39	30.9	9.68
1928	146.2	82	21.2	30.3	44.0	89.75	9.14	11.76	7.66	12.09	36.1	8.75
1928												
January	162	77	19.6	38.2	45.2	83.11	8.48	10.88	7.52	11.34	33.2	7.81
February	168	82	20.1	29.1	43.9	86.34	8.72	11.30	7.60	11.90	34.4	7.62
March	177	85	20.1	23.4	43.9	87.95	8.81	11.34	7.85	12.31	35.4	7.48
April	183	85	20.8	22.8	44.0	88.55	8.92	11.18	8.11	12.73	35.6	7.75
May	191	86	21.5	24.2	42.0	89.00	9.09	11.18	8.09	13.03	37.0	8.82
June	189	86	21.5	23.9	42.2	89.90	9.10	11.56	7.84	13.18	38.7	8.70
July	156	85	21.9	25.6	42.4	90.37	9.19	11.87	7.56	12.25	37.6	9.64
August	106	84	21.6	27.4	42.8	90.43	9.51	12.32	7.53	11.88	37.0	10.01
September	97	82	22.3	31.4	44.3	92.56	9.96	13.05	7.58	11.97	36.5	11.17
October	99	80	22.0	34.9	45.2	92.86	9.63	12.62	7.50	11.57	36.0	9.55
November	108	79	21.5	39.6	45.6	93.05	9.27	11.99	7.50	11.50	35.9	8.51
December	118	78	21.2	42.9	46.3	92.87	8.94	11.82	7.29	11.41	35.6	7.93
1929												
January	124	77	21.6	33.0	45.3	91.54	8.97	12.20	7.84	12.23	35.9	8.18
February	130	79	22.1	31.9	45.2	91.77	8.89	12.17	7.98	12.60	35.9	8.88
March	134	83	22.7	28.0	45.2	92.80	9.16	12.51	8.36	13.12	35.5	10.00
April	134	85	23.8	23.0	44.4	93.55	9.53	12.10	8.40	13.36	33.8	10.20
May	148	85	24.4	24.4	43.6	94.94	9.72	12.11	8.09	12.79	31.3	9.96

Index Numbers (corresponding months, 1910-14 = 100)

	Apples	Horses	Chickens	Eggs	Butter	Milk cows	Beef cattle	Veal calves	Sheep	Lambs	Wool	Hogs
1914	105	96	106	104	100	121	118	114	105	106	99	104
1915	77	93	103	102	102	118	113	111	115	116	126	91
1916	95	93	116	114	110	124	122	122	138	138	155	113
1917	131	94	145	156	141	146	153	153	207	206	265	187
1918	148	93	181	183	169	169	178	173	239	236	325	220
1919	195	87	207	203	198	187	183	186	209	219	287	224
1920	219	85	222	222	215	182	160	172	184	201	214	180
1921	167	66	182	157	151	120	104	115	101	121	95	108
1922	170	60	166	132	139	109	102	112	131	164	163	116
1923	141	59	164	140	160	113	105	117	145	177	212	98
1924	135	54	167	141	156	113	105	119	148	181	210	103
1925	158	56	177	156	161	118	118	130	167	208	221	152
1926	129	56	190	146	163	133	122	140	161	195	186	163
1927	131	55	177	131	167	151	136	148	158	192	174	134
1928	154	58	184	140	172	183	172	172	167	204	203	121
1928												
March	163	59	179	109	169	180	167	164	164	198	189	101
April	160	58	181	133	173	179	162	165	160	197	198	102
May	156	60	182	145	170	180	165	170	163	202	208	122
June	154	59	182	143	180	181	167	171	165	209	221	122
July	152	60	184	153	185	184	172	176	166	201	215	133
August	134	60	180	159	181	183	177	179	170	210	208	134
September	138	59	187	163	179	187	186	186	173	213	211	147
October	143	58	186	157	175	186	181	180	174	210	211	129
November	149	58	189	155	171	186	178	173	176	210	209	122
December	153	58	196	143	164	186	171	171	167	201	206	118
1929												
January	128	55	202	111	160	194	178	180	170	211	194	116
February	126	55	203	121	166	192	174	180	175	212	194	125
March	124	58	203	130	175	190	173	181	175	211	190	135
April	117	58	207	135	175	189	173	179	166	207	188	134
May	121	59	207	146	177	192	177	184	163	198	176	138

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture)

	Corn bu.	Oats bu.	Wheat bu.	Barley bu.	Buck-wheat bu.	Beans bu.	Hay ton	Pota-toes bu.	Apples bu.	Horses head
1910-14	c.	c.	c.	c.	c.	$	$	c.	c.	$
January	72	45	99	75	71	2.34	15.28	64	81	173
February	71	47	100	75	72	2.34	15.22	69	87	175
March	71	47	100	77	71	2.31	15.58	68	90	176
April	71	49	100	77	73	2.28	15.42	69	103	182
May	73	50	100	79	75	2.35	15.76	72	113	178
June	75	51	102	80	77	2.34	16.30	70	98	180
July	76	51	101	78	84	2.42	15.92	69	88	175
August	77	51	96	77	81	2.46	14.76	88	69	178
September	81	49	96	76	76	2.47	15.10	89	62	177
October	79	47	97	75	74	2.44	15.24	69	61	176
November	77	46	97	75	72	2.41	14.90	56	65	175
December	75	47	98	75	72	2.43	15.28	64	74	176
Average	75	48	99	77	75	2.38	15.40	71	83	177
1914	82	49	99	70	82	2.49	14.87	75	85	175
1915	85	56	119	78	87	3.20	15.42	50	64	173
1916	91	53	124	82	93	4.68	14.60	117	77	171
1917	168	75	211	135	164	7.74	12.40	204	108	168
1918	195	91	209	150	181	7.25	17.89	121	119	169
1919	177	83	219	130	164	5.10	21.96	137	178	162
1920	174	101	236	151	172	4.86	25.05	232	169	160
1921	84	54	133	80	114	3.05	18.78	88	135	140
1922	76	51	113	71	97	3.68	16.43	94	154	131
1923	96	57	119	82	106	4.32	15.00	104	135	130
1924	111	58	124	83	103	3.86	15.53	83	117	118
1925	123	57	164	89	104	4.13	12.95	107	126	120
1926	90	50	149	74	89	3.52	14.34	206	109	126
1927	99	53	131	80	91	3.46	12.47	140	115	126
1928	110	62	145	89	97	4.85	10.08	97	160	133
1928										
March	105	61	141	90	95	4.47	9.80	130	195	132
April	112	66	153	98	97	4.92	9.80	135	195	136
May	119	76	180	105	105	5.10	9.90	130	200	135
June	118	77	172	110	115	5.28	10.30	100	200	140
July	115	76	160	99	118	5.34	9.70	75	220	137
August	115	60	129	90	104	5.13	9.70	75	120	135
September	116	51	131	77	94	4.74	10.00	80	95	132
October	113	50	138	75	88	4.80	10.50	75	100	129
November	107	53	138	77	89	5.01	10.70	65	125	134
December	102	54	138	77	92	5.43	10.70	65	135	133
1929										
January	103	55	133	76	94	5.49	10.90	65	140	131
February	110	58	136	81	98	5.82	11.40	60	145	132
March	110	58	137	80	99	5.94	11.10	55	155	137
April	105	59	132	80	100	5.67	11.10	50	150	143
May	108	59	120	78	101	5.64	11.10	65	160	144

Index Numbers (corresponding months, 1910-14 = 100)

	Corn	Oats	Wheat	Barley	Buck-wheat	Beans	Hay	Pota-toes	Apples	Horses
1914	109	102	100	91	109	105	97	106	102	99
1915	113	117	120	101	116	134	100	70	77	98
1916	121	110	125	106	124	197	95	165	93	97
1917	224	156	213	175	219	325	81	287	130	95
1918	260	190	211	195	241	305	116	170	143	95
1919	236	173	221	169	219	214	143	193	214	92
1920	232	210	238	196	229	204	163	327	204	90
1921	112	113	134	104	152	128	122	124	163	79
1922	101	106	114	92	129	155	107	132	186	74
1923	128	119	120	106	141	182	97	146	163	73
1924	148	121	125	108	137	162	101	117	141	67
1925	164	119	166	116	139	174	84	151	152	68
1926	120	104	151	96	119	148	93	290	131	71
1927	132	110	132	104	121	145	81	197	139	71
1928	147	129	146	116	129	204	65	137	195	75
1928										
March	148	130	141	117	134	194	63	191	217	75
April	158	135	153	127	133	216	64	196	189	75
May	163	152	180	133	140	217	63	181	177	76
June	157	151	169	138	149	226	63	143	204	78
July	151	149	158	127	140	221	61	109	250	78
August	149	118	134	117	128	209	66	85	174	76
September	143	104	136	101	124	192	66	90	153	75
October	143	106	142	100	119	197	69	109	164	73
November	139	115	142	103	124	208	72	116	192	77
December	136	115	141	103	128	223	70	102	182	76
1929										
January	143	122	134	101	132	235	71	102	173	76
February	155	123	136	108	136	249	75	87	167	75
March	155	123	137	104	139	257	71	81	172	78
April	148	120	132	104	137	249	72	72	146	79
May	148	118	120	99	135	240	70	90	142	81

NEW YORK

Prices Paid to Producers for Farm Products

(As reported by the United States Department of Agriculture, except for milk, which was reported by the Dairymen's League, and for eggs in New York City)

	Chickens lb.	Eggs doz.	Eggs[1] N.Y.C. doz.	Butter lb.	Milk[2] cwt.	Milk cows head	Veal calves cwt.	Beef cattle cwt.	Sheep cwt.	Lambs cwt.	Wool lb.	Hogs cwt.
1910-14	c.	c.	c.	c.	$	$	$	$	$	$	c.	$
January	13.6	38	39.7	34	1.90	53.78	8.46	5.26	4.18	6.42	22	7.44
February	14.0	32	34.1	33	1.82	54.34	8.38	5.30	4.22	6.40	22	7.50
March	14.2	28	25.9	31	1.68	55.94	8.34	5.20	4.28	6.46	21	7.76
April	14.8	21	22.5	30	1.46	56.44	7.74	5.36	4.56	6.82	21	7.82
May	14.9	19	22.8	29	1.19	55.72	7.36	5.64	4.32	6.54	20	7.58
June	15.2	20	24.5	28	1.07	56.86	7.88	5.50	4.24	6.64	20	7.40
July	15.2	22	27.2	27	1.26	56.52	8.16	5.46	4.16	6.58	21	7.48
August	15.8	25	30.8	28	1.51	56.68	8.48	5.64	4.30	6.32	20	7.74
September	15.6	27	36.7	30	1.59	57.26	8.72	5.66	4.08	6.16	21	7.94
October	15.5	30	45.1	31	1.79	55.94	8.86	5.72	4.06	6.00	21	7.92
November	14.5	35	54.8	32	1.88	56.38	8.80	5.46	3.94	6.02	21	7.44
December	13.8	41	49.3	34	1.91	56.44	8.76	5.44	4.34	6.16	21	7.34
Average	14.8	28	34.4	31	1.59	56.03	8.33	5.47	4.22	6.38	21	7.61
1914	15.7	30	36.3	31	1.58	65.13	9.53	6.23	4.49	6.90	20	8.09
1915	15.6	29	36.0	31	1.60	65.89	9.21	5.80	4.77	7.33	27	7.05
1916	16.6	33	39.7	33	1.76	67.41	9.99	6.23	5.69	8.78	33	8.40
1917	20.8	43	51.0	42	2.60	83.36	12.85	7.95	8.62	12.92	53	13.94
1918	27.2	51	62.7	50	3.24	93.83	14.98	8.84	9.84	15.06	66	16.39
1919	31.7	56	68.9	60	3.51	110.98	16.38	9.25	9.03	14.25	56	16.35
1920	33.3	61	73.9	64	3.50	106.08	15.64	8.25	8.16	13.67	42	13.96
1921	29.4	47	59.4	47	2.46	71.25	10.56	5.54	4.57	8.93	20	8.80
1922	27.6	40	55.6	42	2.12	67.17	10.18	5.25	4.99	10.78	30	9.05
1923	25.7	41	53.6	49	2.38	72.99	10.68	5.42	5.54	11.74	41	8.33
1924	23.7	39	52.3	46	2.04	67.96	10.80	5.47	5.72	11.91	42	8.40
1925	25.1	43	54.1	48	2.43	76.84	11.29	5.90	6.29	12.87	44	11.74
1926	26.6	40	50.7	48	2.48	90.67	11.87	5.93	5.86	12.26	37	12.22
1927	25.6	38	46.0	50	2.64	109.67	12.19	6.32	5.90	11.94	34	10.65
1928	26.3	40	46.9	50	2.66	126.92	13.37	7.60	6.11	12.51	42	9.68
1928												
March	26.8	32	36.4	50	2.53	130.00	13.20	7.00	6.30	13.00	39	8.60
April	26.3	28	34.8	50	2.30	128.00	12.60	7.50	6.30	13.00	42	8.60
May	26.6	26	35.7	49	2.21	123.00	12.20	7.50	5.90	13.20	42	9.40
June	27.1	30	37.4	48	2.11	124.00	12.90	7.60	6.00	14.40	44	9.40
July	26.3	33	40.4	49	2.33	126.00	13.20	7.60	6.70	12.90	43	9.70
August	26.3	38	46.5	49	2.68	124.00	13.70	7.80	6.10	12.50	43	10.30
September	26.6	43	55.8	51	2.83	128.00	14.50	8.20	5.90	12.40	44	11.40
October	26.3	50	65.1	51	2.94	130.00	14.40	8.30	6.00	11.60	43	11.00
November	26.3	57	67.0	52	3.13	130.00	13.80	8.00	6.10	11.40	44	10.20
December	26.3	55	53.3	53	3.09	130.00	13.80	7.80	5.90	11.60	43	9.70
1929												
January	26.8	43	46.6	52	3.05	128.00	14.10	8.00	6.70	13.10	42	9.50
February	27.3	40	45.8	51	3.02	129.00	14.60	8.00	7.00	13.70	42	10.00
March	27.4	40	39.1	51	2.88	131.00	14.10	7.80	6.40	14.00	42	10.00
April	28.7	28	35.0	51	2.66	130.00	13.40	7.90	6.50	13.60	40	10.60
May	29.1	29	36.4	50	2.44	133.00	13.40	7.90	6.90	13.10	38	10.60

Index Numbers (corresponding months, 1910-14 = 100)

	Chickens	Eggs	Eggs[1]	Butter	Milk[2]	Milk cows	Veal calves	Beef cattle	Sheep	Lambs	Wool	Hogs
1914	106	107	106	100	99	116	114	114	106	108	95	106
1915	105	104	105	100	101	118	111	106	113	115	129	93
1916	112	118	115	106	111	120	120	114	135	138	157	110
1917	141	154	148	135	164	149	154	145	204	203	252	183
1918	184	182	182	161	204	167	180	162	233	236	314	215
1919	214	200	200	194	221	198	197	169	214	223	267	215
1920	225	218	215	206	220	189	188	151	193	214	200	183
1921	199	168	173	152	155	127	127	101	108	140	95	116
1922	186	143	162	135	133	120	122	96	118	169	143	119
1923	174	146	156	158	150	130	128	99	131	184	195	109
1924	160	139	152	148	128	121	130	100	136	187	200	110
1925	170	154	157	155	153	137	136	108	149	202	210	154
1926	180	143	147	155	156	162	142	108	139	192	176	161
1927	173	136	134	161	166	196	146	116	140	187	162	140
1928	178	143	136	161	167	227	161	139	145	196	200	127
1928												
March	189	114	141	161	151	232	158	135	147	201	186	111
April	178	133	155	167	158	227	163	140	138	191	200	110
May	179	137	157	169	186	221	166	133	137	202	210	124
June	178	150	153	171	197	218	164	138	142	217	220	127
July	173	150	149	181	185	223	162	139	161	196	205	130
August	166	152	151	175	177	219	162	138	142	198	215	133
September	171	159	152	170	178	224	166	145	145	201	210	144
October	170	167	144	165	164	232	163	145	148	193	205	139
November	181	163	122	163	166	231	157	147	155	189	210	137
December	191	134	108	156	162	230	158	143	136	188	205	132
1929												
January	197	113	117	153	161	238	167	152	160	204	191	128
February	195	125	134	155	166	237	174	151	166	214	191	133
March	193	143	151	165	171	234	169	150	150	217	200	129
April	194	133	156	170	182	239	173	147	143	199	190	136
May	195	153	160	172	205	139	182	140	160	200	190	140

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[1] Monthly average price of the highest grade of nearby hennery white eggs in New York City. Present classification is "nearby and nearby western hennery whites, closely selected extras."

[2] Net pool price of 3.7 per cent milk at Utica, New York. At the present time, add 5 cents to the net pool price. (+8c for fat −3c for freight).

Wholesale Prices of Feed in Straight Cars at Utica, New York

Date	Corn meal	Gluten feed 23%	White hominy 10%	Ground oats	Wh't bran	Stand-ard midl'gs	Wheat mixed feed	Lins'd oil meal 34%	Cotton seed meal 43%	Meat scrap 50-55%	Dairy ration	Poultry ration
1910-14	$	$	$	$	$	$	$	$	$	$	$	$
January	27.56	30.30	27.83	31.02	26.00	26.13	26.97	34.61	32.88	51.95	29.46	31.27
February	27.39	30.65	27.70	31.82	26.27	26.23	27.11	34.77	32.09	52.18	29.65	31.42
March	26.71	29.31	26 66	31.74	26.15	26.05	27.10	33.29	31.86	52.41	28.99	31.22
April	27.78	27.89	26.34	32.25	25.75	25.76	26.59	33.45	32.56	52.41	28.71	31.58
May	28.68	27.36	27.26	32.73	25.24	25.56	26.20	33.08	32.78	52.41	28.65	31.90
June	28.53	27.59	27.49	33.21	23.17	24.88	25.39	32.15	32.81	52.41	28.36	31.79
July	29.50	26.36	27.65	33.67	23.45	25.89	25.45	32.28	32.97	52.41	28.29	32.14
August	31.57	29.47	29.71	33.25	24.75	27.36	26.35	34.42	34.24	52.41	30.01	32.70
September	32.68	30.51	31.29	32.16	24.79	27.14	26.79	35.33	34.08	52.86	30.40	33.03
October	30.82	28.78	29.58	31.03	23.62	25.71	26.16	34.48	31.99	53.38	28.91	32.17
November	30.03	28.41	28.84	31.14	23.92	25.21	26.05	34.17	31.54	53.59	28.65	31.87
December	28.89	29.54	28.03	31.11	24.79	25.42	26.46	34.24	31.55	53.59	29.00	31.69
Average	29 18	28.85	28.20	32.09	24.83	25.94	26.39	33.86	32.61	52.67	29.09	31.90
1914	31.98	30.71	30.69	32.53	25.84	26.38	27.21	32.20	32.59	57.00	30.25	33.35
1915	32.66	29.06	31.97	36.28	24.58	25.99	27.52	36.30	33.60	57.09	30.61	35.49
1916	34.82	31.96	33.70	36.49	25.14	26.53	27.96	37.01	38.73	56.68	32.45	36.72
1917	69.39	48.94	56.56	52.36	38.44	41.54	42.18	50.41	50.02	76.73	49.78	62.70
1918	67.93	57.31	62.70	62.61	36.32	38.31	.....	56.16	59.86	104.88	55.45	65.12
1919	69.51	67.25	67.69	57.52	45.72	51.47	50.61	72.23	78.24	102.50	62.54	67.85
1920	67.13	68.86	63.34	67.88	50.27	53.76	54.28	64.73	71.13	114.34	64.01	71.31
1921	33.26	39.96	31.66	36.52	25.70	25.65	29.09	43.16	45.74	90.37	35.70	40.25
1922	31.17	39.56	31.13	34 00	29.17	30.22	31.31	52.95	53.86	90.56	37.13	38.39
1923	40.24	47.18	38.39	38.84	33.74	34.75	35.28	50.41	54.72	89.47	42.48	43.29
1924	45.16	43.20	41.33	43.09	31.61	32.38	33.90	47.81	51.90	69.13	41.64	42.99
1925	47.89	43.11	41.96	40.91	33.30	35.05	36.78	48.48	48.45	70.55	41.81	47.95
1926	37.40	38.72	33.43	38.45	31.20	31.72	33.48	50.60	39.96	70.84	37.26	41.99
1927	42.18	39.28	38.87	42.44	34.73	37.02	36.65	51.75	45.34	79.13	40 33	44.09
1928	45.54	44.93	42.80	45.38	37.99	39.39	41.31	56.80	58.95	75.68	45.45	47.08
1928												
March	45.85	44.60	42.50	48.55	44.25	43.88	44.56	56.93	59.38	74.80	47.22	47.87
April	46.83	44.60	43.13	50.46	41.94	41.94	45.63	58.13	64.51	74.30	47.82	49.06
May	48.32	44.60	47.30	53.86	43.15	45.20	46.25	57.70	70.70	75.80	49.66	52.89
June	46.56	44.60	45.00	54.00	36.94	42.56	44.00	56.33	70.00	75.80	48.07	50.86
July	47.49	44.60	44.50	53.72	34.85	39.94	42.50	54.50	60.98	75.80	46.58	49.45
August	47.25	45.43	43.00	37.85	31.50	31.88	38.25	54.70	55.00	75.80	42.65	44.96
September	46.48	45.80	41.25	36.40	31.94	34.25	36.13	54.58	50.18	75.80	41.97	44.58
October	46.42	45.70	39.30	37.00	34.75	36.00	37.60	58.00	54.81	75.80	43.14	45.53
November	42.23	45.55	40.63	38.35	38.00	38.50	39.13	61.10	55.35	75.80	43.84	44.77
December	40.99	45.50	42.63	40.90	39.06	39.06	41.00	61.80	55.80	75.80	44.55	44.53
1929												
January	43.84	44.35	41.30	42.46	38.00	37.95	40.70	61.60	55.55	74.80	44.39	44.80
February	45.11	50.34	41.38	43.40	36.69	36.56	40.00	61.80	55.13	73.80	46.13	45.33
March	44.59	49.85	40.00	40.98	34.69	34.63	38.50	61.43	54.25	73.80	44.92	44.81
April	42.45	44.61	38.90	41.44	31.15	31.15	35.10	58.40	50.60	72.30	41.75	42.83
May	40.99	40.38	38.88	40.79	29.69	29.69	34.50	58.45	47.25	69.80	39.58	40.78

Index Numbers (corresponding Months, 1910-14 = 100)

Date	Corn meal	Gluten feed	White hominy	Ground oats	Wheat bran	Stand-ard midl'gs	Wheat-mixed feed	Linseed oil meal	Cotton seed meal	Meat scrap	Dairy ration	Poultry ration
1914	110	106	109	101	104	102	103	95	100	108	104	105
1915	112	101	113	113	99	100	104	107	105	108	105	111
1916	119	111	120	114	101	102	106	109	119	108	112	115
1917	238	170	201	163	155	160	160	149	153	146	171	197
1918	233	199	222	195	146	148	...	166	184	199	191	204
1919	238	233	240	179	184	198	192	213	240	195	215	213
1920	230	239	225	212	202	207	206	191	218	217	220	224
1921	114	139	112	114	104	99	110	127	140	172	123	126
1922	107	137	110	106	117	116	119	156	165	172	128	120
1923	138	164	136	121	136	134	134	149	168	170	146	136
1924	155	150	147	134	127	125	129	141	159	131	143	135
1925	164	149	149	127	134	135	139	143	149	134	144	150
1926	128	134	119	120	126	122	127	149	123	134	128	132
1927	145	136	138	132	140	143	139	153	139	150	139	138
1928	156	156	152	141	153	152	157	168	181	144	156	148
1928												
March	172	152	159	153	169	168	164	171	186	143	163	153
April	169	160	164	156	163	163	172	174	198	142	167	155
May	168	163	174	165	171	177	177	174	216	145	173	166
June	163	162	164	163	159	171	173	175	213	145	169	160
July	161	169	161	160	149	154	167	169	185	145	165	154
August	150	154	145	114	127	117	145	159	161	145	142	137
September	142	150	132	113	129	126	135	154	147	143	138	135
October	151	159	133	119	147	140	144	168	171	142	149	142
November	141	160	141	123	159	153	150	179	175	141	153	140
December	142	154	152	131	158	154	155	180	177	141	154	141
1929												
January	159	146	148	137	146	145	151	178	169	144	151	143
February	165	164	149	136	140	139	148	178	172	141	156	144
March	167	170	150	129	133	133	142	185	170	141	155	144
April	153	160	148	128	121	121	132	175	155	138	145	136
May	143	148	143	125	118	116	132	177	144	133	138	128

(*Continued from page 1099*)

price of McIntosh was $2.33, but only $0.92 for Hubbardston. Because the spread is greater on the best-selling varieties, the premium for quality is greater on the wholesale market than on farms.

The freight on a barrel of apples from Newfane to New York City was 48 cents. On the average, a barrel cost 63 cents. These costs and other

TABLE 2—SPREAD BETWEEN FARM AND WHOLESALE PRICE OF IMPORTANT APPLE VARIETIES, 1922-1926

Variety	Wholesale price New York City (season's average to May 1)	Net farm price Newfane-Olcott (package deducted)	Difference between New York wholesale price and Newfane farm price	Difference less freight and barrel (column 3 less $1.11)
McIntosh	$6.24	$3.91	$2.33	$1.22
Northern Spy	4.83	2.79	2.04	0.93
R. I. Greening	4.33	2.38	1.95	0.84
Baldwin	3.83	2.32	1.51	0.40
Wealthy	3.43	2.21	1.22	0.11
Tompkins King	3.75	2.63	1.12	0.01
Ben Davis	2.86	1.78	1.08	−0.03
Twenty Ounce	3.47	2.44	1.03	−0.08
Hubbardston	3.09	2.17	0.92	−0.21
Stark	3.47	2.70	0.77	−0.34

TABLE 3—COMPARISON OF WHOLESALE AND DEALER PRICES OF APPLE VARIETIES SOLD ALONE, 1922-1926

Variety	Wholesale price at New York City	Farm price paid by dealers, package deducted	Difference	Difference less freight and barrel (column 3 less $1.11)
McIntosh	$6.24	$4.02	$2.22	$1.11
Northern Spy	4.83	3.21	1.62	0.51
R. I. Greening	4.33	2.37	1.96	0.85
Baldwin	3.83	2.04	1.79	0.68
Tompkins King	3.75	2.64	1.11	0.00
Wolf Rivers	3.58	2.07	1.51	0.40
Twenty Ounce	3.47	2.16	1.31	0.20
Wealthy	3.43	2.10	1.33	0.22
Russet	3.36	2.01	1.35	0.24
Hubbardson	3.09	2.19	0.90	−0.21

TABLE 4—COMPARISON OF WHOLESALE PRICES AND PRICES PAID BY DEALERS IN SINGLE AND COMBINATION SALES 1922-1926

Variety	Wholesale price New York City	Farm prices paid by dealers† (package deducted)			Per cent of varieties in the same sale more or less than the variety listed that sold for		
		when variety sold alone	when variety sold with other varieties	Increase when sold with other varieties	More	Same	Less
McIntosh	$6.24	$4.02	$3.01	$−1.01	3	62	35
Northern Spy	4.83	3.21	2.37	−0.84	3	81	16
R. I. Greening	4.33	2.37	2.34	−0.03	11	76	13
Baldwin	3.83	2.04	2.31		9	80	11
Baldwin (fall '25 & '26)*		1.94	1.91	−0.03			
Tompkins King	3.75	2.64	2.38	−0.26	4	83	13
Wolf River	3.58	2.07	2.44	0.37	7	88	5
Twenty Ounce	3.47	2.16	2.27	0.11	10	82	8
Stark	3.47	**	2.27		9	84	7
Wealthy	3.43	2.10	2.12	0.02	10	82	8
Russett	3.36	2.01	2.25	0.24	16	78	6
Hubbardston	3.09	2.19	2.32	0.13	10	86	4
Average					9	82	9

* Baldwin prices for the fall of 1925 and 1926 are included to show that this variety brings about the same price when sold alone as when sold with other varieties. In the average for all years, Baldwin brought less when sold alone. This is because more of the late spring sales are made in this way. When sales on the same date are compared, Baldwin brings about the same as the average for all varieties.

** Price omitted because Stark was sold alone in only three years out of the five.

† The average price for each year was obtained by taking an average of the average price of each sale that year. Each sale during the year had the same weight. In obtaining the average for 1922-26, each year had the same weight.

handling charges, except commission, are the same for all barrels whether McIntosh or Ben Davis. The barrel and freight amount to $1.11. At the prices paid, this would leave the dealer $1.22 on McIntosh to pay other costs and profits. He would have lacked 19 cents of paying for the barrel and freight at prices of Hubbardston. The same principal is shown when comparison is made for varieties sold alone (table 3). For sales of McIntosh independent of other varieties, there was an average difference of $2.22 and for Hubbardston 90 cents. The dealers would have had $1.11 to pay other costs and profits for each barrel of McIntosh and would have lacked 21 cents of paying for the barrel and freight on Hubbardston. This tendency of dealers to pay an average price for all varieties was still more pronounced when they bought a number of varieties in the same sale. When varieties were sold in combination, 82 per cent of the varieties sold at the same price. Even the McIntosh sold for the same price as 62 per cent of the varieties sold in the same sales (table 4). In a few cases, dealers paid more for some varieties in the same sales. When they did pay more, McIntosh, Northern Spy, and Tompkins King received the premium more often than the other varieties.

This illustrates what has been going on in western New York for years. Dealers must use the profit on high-quality varieties to make up for the loss on those of low quality.

This method of buying apples does not reward adequately the growers who are raising high-quality apples. The premium paid such growers is only a small part of what it should be. On the contrary, the growers of poor varieties and low-quality fruit are overpaid. If each variety and grade stands on its own merits, growers would have a greater incentive to cut out or top-work odd or low quality varieties, and to produce a higher percentage of "A" grade fruit. For the good of the apple situation in western New York, growers should be paid strictly on the basis of quality and grade.

G. P. Scoville and T. E. LaMont

THE SEASONAL PRODUCTION OF MILK IN THE NEW YORK MILK SHED[1]

The work reported here is part of a study of the New York milk supply which is being made by the New York State College of Agriculture in cooperation with the New York Central Railroad.

The fall shortage in the New York milk supply is due to the lack of adjustment between seasonal production and seasonal consumption. Milk production for the whole district is only half as great in November as in June. In different parts of the shed, however, it varies greatly, ranging from 32 per cent in Tioga County, Pennsylvania to 106 per cent in Dutchess County, New York (table 1 and figure 1). The greatest proportion of winter dairying is found in the regions which have been supplying New York City longest, and which are best adapted to this type of farming.

City markets pay more for winter milk than can creameries or cheese factories, hence, dairymen who have such a market, can better afford to produce winter milk. The seasonal variation in the production of different grades of milk in the New York milk shed is shown in table 2 and figure 2.

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[1] Data obtained thru the courtesy of the Department of Agriculture and Markets of the State of New York, numerous New York City milk dealers, and the Dairymen s League Cooperative Association, Inc.

TABLE 1—AVERAGE DAILY PRODUCTION OF NEW YORK CITY APPROVED MILK BY 52,139 DAIRIES DURING JUNE AND NOVEMBER, 1927

County	Dairies	Pounds per day per dairy June	Pounds per day per dairy Nov.	Ratio of Nov. to June
				per cent
New York				
Allegany	1,067	299.4	110.2	37
Broome	1,056	318.7	168.5	53
Cattaragus	1,190	369.8	135.6	37
Cayuga	696	208.8	126.8	61
Chautauqua	1,047	284.9	121.3	43
Chemung	337	253.3	121.3	48
Chenango	1,890	378.7	206.4	55
Clinton	1,175	334.8	125.1	37
Columbia	306	257.0	214.2	83
Cortland	1,426	368.1	221.9	60
Delaware	2,792	451.6	200.3	44
Dutchess	584	360.8	383.6	106
Erie	201	226.9	113.5	50
Franklin	1,319	372.0	149.9	40
Greene	394	202.9	91.2	45
Herkimer	1,498	489.6	202.1	41
Jefferson	2,062	397.3	147.0	37
Lewis	928	534.6	207.6	39
Livingston	600	199.9	98.4	49
Madison	1,698	344.7	218.9	64
Montgomery	1,130	384.4	182.7	48
Oneida	2,233	373.0	183.7	49
Onondaga	778	274.6	183.0	67
Orange	1,416	428.2	344.5	80
Oswego	1,028	266.1	123.0	46
Otsego	2,020	321.0	160.1	50
Putnam	142	402.3	417.4	104
Rensselaer	116	206.3	104.9	51
Saratoga	69	267.0	157.6	59
Schoharie	1,206	298.4	158.9	53
Schuyler	72	193.9	108.8	56
Seneca	158	229.2	131.7	57
Steuben	854	252.5	110.1	44
St. Lawrence	2,776	424.7	141.6	33
Sullivan	1,031	202.2	133.5	66
Tioga	728	255.9	165.6	65
Tompkins	339	235.9	166.7	71
Ulster	384	270.3	205.7	76
Washington	678	276.4	165.4	60
Wayne	358	166.1	91.1	55
Westchester	9	480.9	270.3	56
Wyoming	1,284	267.7	123.0	46
Pennsylvania				
Bradford	1,450	265.6	119.7	45
Center	662	181.3	101.5	56
Columbia	88	97.3	76.1	78
Erie	419	240.0	137.4	57
Lycoming	296	202.9	100.1	49
McKean	48	210.8	90.2	43
Monroe	88	149.2	99.2	66
Montour	90	130.9	86.1	66
Northumberland	234	144.8	103.4	71
Snyder	574	94.4	66.5	70
Sullivan	39	252.1	122.5	49
Susquehanna	724	275.7	176.2	64
Tioga	1,318	287.5	93.3	32
Union	320	118.6	90.5	76
Warren	69	195.8	88.5	45
Wayne	857	267.9	139.4	52
Wyoming	208	249.8	160.5	64
New Jersey				
Burlington	75	366.3	206.0	56
Hunterdon	205	221.5	173.7	78
Sussex	254	480.7	374.0	78
Warren	136	250.8	211.4	84
Maryland				
Cecil	266	132.0	115.2	87
Harford	132	321.7	260.3	81
Connecticut				
Litchfield	196	303.5	240.4	79
Massachusetts				
Berkshire	150	252.2	158.7	63
Vermont				
Addison	276	439.5	188.8	43
Chittenden	34	485.7	272.6	56
Rutland	567	345.0	167.3	49
Canada	1,289	378.4	132.6	35
TOTAL	52,139	330.0	163.0	49

TABLE 2.—AVERAGE DAILY PRODUCTION OF VARIOUS GRADES OF MILK IN THE NEW YORK MILK SHED, 67,064 DAIRIES, 1927

Month	New York approved Grade A milk	New York approved Grade B milk	New York unapproved milk	Manufactured milk on railroad	Manufactured milk off railroad	All milk
	Lbs. per day per dairy	Lbs. per day per dairy	Lbs. per day per dairy	Lbs. per day per dairy	Lbs. per day per dairy	Lbs. per day per dairy
Jan.	311.4	168.6	133.5	121.8	79.3	168.0
Feb.	326.2	182.0	146.4	132.8	88.2	181.3
Mar.	342.6	206.5	159.8	147.1	107.1	202.6
Apr.	361.4	241.4	164.7	173.8	150.2	232.2
May	391.0	286.3	194.3	209.8	205.9	273.9
June	400.3	320.8	218.4	234.6	248.8	304.9
July	307.5	265.3	184.0	195.5	221.3	252.6
Aug.	257.3	221.2	160.0	174.1	187.3	212.6
Sept.	261.3	193.6	143.6	159.6	159.9	190.0
Oct.	276.7	172.6	130.3	131.6	124.8	171.2
Nov.	270.8	148.0	122.8	117.5	85.7	149.4
Dec.	292.4	156.0	132.7	125.2	82.1	159.2
Average	315.0	213.8	158.0	163.1	153.9	209.1
Ratio Nov. to June	68	46	56	50	34	49
Dairies	6,083	44,364	3,796	5,526	7,295	67,064

The November production of Grade A milk is 68 per cent of the June production, while for Grade B milk, the November production is only 46 per cent of the June production. This is the result of several factors. Grade A plants are located largely in the oldest parts of the district. Since these plants took over Grade B supplies, and since the demand for milk has greatly increased, it has been necessary to obtain a larger proportion of Grade B milk from the surplus districts where summer dairying predominates. The wide seasonal range of production for this grade of milk is indicated by the fact that in November the milk manufactured in small plants not on railroads was only 34 per cent of the June amount (table 2). These were largely cheese factories.

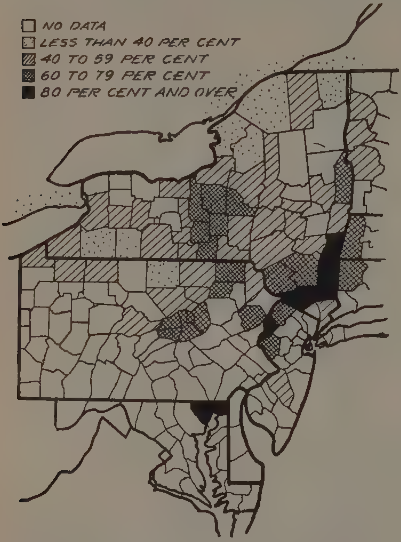

FIGURE 1.—RATIO OF NOVEMBER PRODUCTION PER DAIRY TO JUNE PRODUCTION PER DAIRY BY 52,139 APPROVED DAIRIES IN THE NEW YORK MILK SHED DURING 1927

The districts which have been producing longest for the New York City market have the most uniform seasonal production.

The Grade A market also pays relatively higher fall and winter prices than the Grade B market. Generally, Grade A premiums are only 25 cents per 100 pounds in April, May, and June, but are 40 cents for the other nine months. The proportion of dairymen obtaining the premium is also higher in the fall than in the summer so that the seasonal variations in prices are entirely different for the two grades of milk.[2]

TABLE 3.—PERCENTAGES OF TOTAL NEW YORK CITY APPROVED MILK PRODUCED BY 50,253 DAIRIES GROUPED ACCORDING TO THE RATIO OF NOVEMBER PRODUCTION TO JUNE PRODUCTION, 1927

	Ratio of November production to June production						
Group	Less than 40 per cent	40 to 49 per cent	50 to 59 per cent	60 to 69 per cent	70 to 79 per cent	80 per cent and over	All
Group average	32.6	43.9	54.1	62.4	74.2	94.2	49.4
	per cent	*per cent*	*per cent*	*per cent*	*per cent*	*per cemt*	*per cent*
Jan.	16.9	25.4	19.9	13.1	12.6	12.1	100
Feb.	18.1	25.6	19.8	12.7	12.4	11.4	100
Mar.	21.9	26.4	19.0	11.8	11.1	9.8	100
Apr.	25.5	27.7	18.5	10.8	9.6	7.9	100
May	27.2	28.4	18.7	10.1	8.8	6.8	100
June	28.5	29.1	18.3	9.7	8.4	6.0	100
July	29.9	29.7	18.0	9.4	7.7	5.3	100
Aug.	29.4	29.4	18.0	9.6	7.9	5.7	100
Sept.	29.0	27.5	17.5	9.9	8.7	7.4	100
Oct.	25.0	26.0	18.4	11.2	10.1	9.3	100
Nov.	20.7	25.2	19.4	12.2	11.8	10.7	100
Dec.	19.6	24.7	19.8	12.8	12.2	10.9	100
Avg.	25.1	27.4	18.7	10.8	9.8	8.2	100
Dairies	24.8	28.2	19.7	11.4	9.8	6.1	100

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[2] Misner, E. G., Economic Studies of Dairy Farming in New York. II, Grade A Milk With and Without Cash Crops, Cornell Bulletin 433, p. 48, 1923.

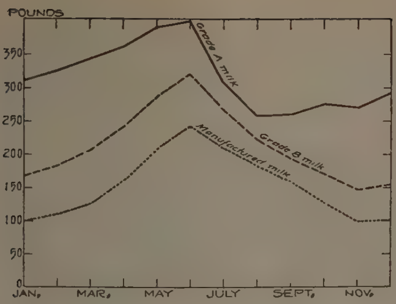

FIGURE 2.—AVERAGE DAILY PRODUCTION PER DAIRY OF VARIOUS GRADES OF MILK IN THE NEW YORK MILK SHED BY 67,064 DAIRIES DURING 1927

The seasonal production of milk tends toward an adjustment to the seasonal prices of the various markets.

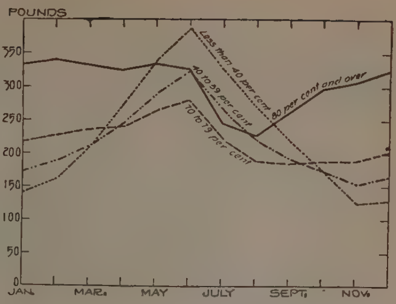

FIGURE 3—AVERAGE DAILY PRODUCTION OF NEW YORK CITY APPROVED MILK BY 50,253 DAIRIES GROUPED ACCORDING TO THE RATIO OF NOVEMBER PRODUCTION TO JUNE PRODUCTION DURING 1927

There is a marked contrast between the contribution of winter and summer dairies to the supply of milk during the shortage period in November.

Under the New York City plan of purchasing milk, the same price per 100 pounds is paid to producers irrespective of their seasonal variations in production. The value of their contribution to the supply differs greatly, however, since there is now a decided shortage in the fall and a large surplus in the spring. The proportion of each month's supply produced by the various groups arranged according to seasonal production is shown in table 3. The dairies with the greatest seasonal range in production constituted 24.8 per cent of the total number and produced 28.5 per cent of the supply in June, but only 20.7 per cent in November. On the other hand, the group with the most uniform production constituted 6.1 per cent of the total number of dairies and produced only 6.0 per cent of the supply in June, compared with 10.7 per cent in November. The average production of the latter group was less than that of the former, in June when there was a surplus, but when the shortage period of November was reached, it was almost two and one-half times as great (figure 3). The need for a larger supply of fall milk would seem to justify greater encouragement of winter dairying.

H. A. Ross

RELATIVE IMPORTANCE OF NEW YORK STATE APPLES IN THE CARLOT SUPPLY OF VARIOUS CITIES IN 1928

A mimeographed report issued recently by the United States Department of Agriculture gives the number of carloads of apples unloaded at each of 66 important cities according to the states in which the shipments originated.

The 44 cities mentioned in this report which received one or more carloads of apples from New York State are arranged according to location, and the number of carloads of apples received from New York State is compared with the number of carloads received from the states of the Shenandoah-Cumberland region, New England and the Western States (table 1).

TABLE I.—SOURCES OF CARLOAD RECEIPTS OF APPLES AT VARIOUS CITIES, 1928

City	Number of carloads of apples received from various districts				
	New York	Penn., Md., Va., and W. Va.	New England	Western States	All States
New York, New Jersey, Pennsylvania					
Albany	2	3	0	46	51
Buffalo	21	15	1	145	298
Newark	296	215	2	96	673
New York	3682	2400	509	6047	12,923
Philadelphia	166	871	2	1059	2,211
Pittsburgh	557	566	0	645	1,932
Rochester	35	126	0	5	184
Syracuse	10	7	0	20	58
Total:	4769	4203	514	8063	18,330
New England					
Boston	107	541	119	882	1,856
Bridgeport	72	39	2	28	145
Hartford	44	9	3	50	127
New Haven	67	68	8	66	236
Portland	9	23	31	22	95
Providence	39	27	8	131	253
Springfield	18	23	13	51	137
Worcester	4	3	1	10	26
Total:	360	733	185	1240	2,875
South					
Atlanta	1	190	0	187	555
Baltimore	54	257	0	243	560
Birmingham	2	186	0	252	501
Jacksonville	2	185	0	108	352
Lexington	41	103	0	31	188
Louisville	27	156	2	218	553
Nashville	3	239	0	164	442
Richmond	1	506	0	23	532
Washington	14	315	0	135	483
Tampa	1	148	0	157	328
Total:	146	2285	2	1518	4,494
West					
Akron	101	53	0	78	260
Chicago	585	159	1	4235	7,428
Cincinnati	311	195	0	421	1,153
Cleveland	568	183	3	671	1,640
Columbus	30	59	0	117	322
Dayton	99	76	0	107	490
Des Moines	1	5	0	116	179
Detroit	290	134	0	1421	2,415
Duluth	4	13	0	247	420
Indianapolis	50	212	3	257	725
Milwaukee	92	11	0	692	1,131
Minneapolis	9	17	0	591	748
Peoria	1	7	0	94	198
St. Louis	2	33	0	660	1,325
St. Paul	6	7	0	233	271
Terre Haute	20	29	0	21	78
Toledo	72	105	0	74	448
Youngstown	17	50	0	71	158
Total:	2258	1348	7	10,106	19,389

Receipts from the Western States are somewhat more important than they appear to be from table 1, since a full carload of boxed apples is 756 bushels, while a full carload of apples in barrels or bushel baskets is about 525 bushels.

New York City received, during 1928, 12,923 carloads of apples, including 3682 carloads from New York, 2400 carloads from the states of the Shenandoah-Cumberland region and 6047 carloads from the Western States. New York also received the equivalent of about 850 carloads by truck, mostly from New York and New Jersey. Although complete information on truck receipts is not available, some of the smaller cities, and those near important fruit areas, such as Buffalo, Rochester, Syracuse, and Philadelphia no doubt received a large part of their total supply of apples by truck. In such cases the nearby territories are more important sources of supply than is indicated by the carlot receipts.

In general, the Western States held first position in the cities of the Northeast and Midwest, while the states of the Shenandoah-Cumberland region held first place in the cities of the Southeast. New York State apples constituted a large part of the total receipts in the cities of New York State, New Jersey, Ohio and Pennsylvania, but were an insignificant factor in the cities of the South, and in the cities west of Chicago.

LELAND SPENCER

RELATION OF THE PRODUCTION OF GRAPES IN WESTERN NEW YORK AND IN CALIFORNIA TO PRICES[1]

Nearly 90 per cent of the grapes in the United States are produced in California. Approximately 4 per cent are produced in New York, 4 per cent in the other Great Lake States, and the remainder in scattered areas.

Approximately three-fifths of California's total output is raisin grapes, one-fifth, table grapes and one-fifth, wine grapes. New York's output is entirely of table grapes, although used to a large extent for grape juice.

The trend of production in California is decidedly upward. In the last twenty-five years the total output has increased four times. The greatest increase has been in the output of table grapes which has increased nearly thirty times during the period. Raisin grapes have increased more than five times while wine grape production has not materially changed, declining somewhat since 1911.

The trend of production in Western New York is stationary. This is largely due to the limited amount of land available for grape culture in this area. Water protection from late spring frosts is very important and the amount of suitable land close to the lakes is quite limited.

Violent fluctuations in the yield from year to year, such as are experienced in Western New York, are evidences of the part played by weather factors in that region. The variability of the output from year to year in Western New York is double that of table grapes in California for the same period and nearly three times that of wine grapes. Moreover, this variability increases as time goes on because of the extension of the acreage to land more remote from water protection.

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[1] Data for this study was obtained from Bulletin 429, University of California Agricultural Experiment Station, "Economic Status of the Grape Industry."

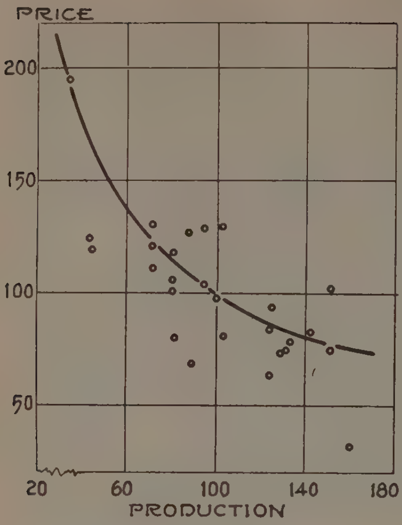

FIGURE 1.—RELATION OF THE WESTERN NEW YORK PRODUCTION OF GRAPES TO PRICES, 1900-1926.

For a crop of grapes 40 per cent below normal, the grape growers receive a price 36 per cent above normal.

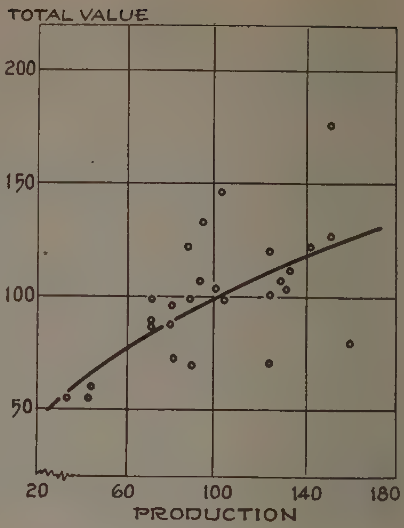

FIGURE 2.—RELATION OF THE WESTERN NEW YORK PRODUCTION OF GRAPES TO TOTAL VALUE OF THE THE CROP, 1900-1926.

A crop of grapes 40 per cent above normal returns gross receipts 18 per cent greater than a normal crop.

Should the Western New York grape grower receive a price for his crop proportionate to its size, he would be but little concerned with these wide fluctuations. The fact that his returns from a large crop are not in proportion to those from a small crop tends to make the industry unstable.

The relation between the production of grapes in Western New York, from 1900 to 1926, and the price received, is shown in figure 1. During this period, a crop 40 per cent below normal brought a price 36 per cent above normal and a crop 40 per cent above normal brought a price 20 per cent below normal.

In terms of total value, a crop 40 per cent above normal increased gross receipts 18 per cent (figure 2). In the grape industry where costs are almost in direct proportion to the size of the crop, the added value does not keep pace.

In California, the price fluctuates even more with supply than in Western New York (figure 3).

Along with the tendency for the yield of grapes in Western New York to become even more variable as time goes on, is the tendency for large crops to become less and less profitable (figure 4). This combination may go a long ways towards determining the future of the grape industry in New York State.

The question often arises as to just how much effect the size of the California crop has upon the price of grapes in Western New York. The multiple correlation[2] between the purchasing power of the price of grapes

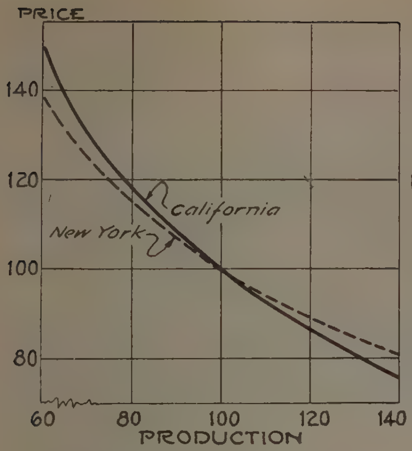

FIGURE 3.—RELATION OF THE WESTERN NEW YORK PRODUCTION OF GRAPES TO PRICES AND CALIFORNIA PRODUCTION OF TABLE GRAPES TO PRICES, 1910-1926.

A crop of grapes in Western New York 20 per cent below normal brings a price 15 per cent above normal. A crop of table grapes in California 20 per cent below normal, brings a price 19 per cent above normal.

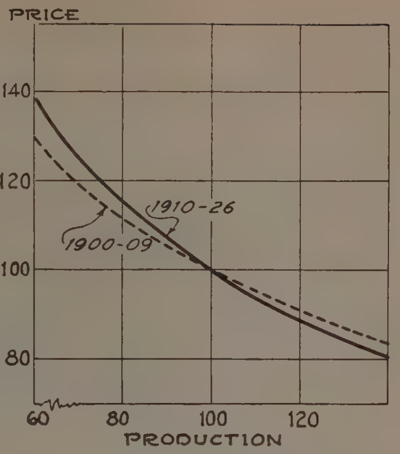

FIGURE 4.—RELATION OF THE WESTERN NEW YORK PRODUCTION OF GRAPES TO PRICES, 1900-1909 and 1910-1926.

From 1910 to 1926, a crop of grapes 20 per cent below normal brought 4 per cent more than during the earlier period.

in Western New York (X_1), the production of grapes in Western New York (X_2), and the production of table grapes in California (X_3):

$$R_{1\cdot 23} = 0.886 \pm 0.035$$

indicates that the production of grapes in these areas accounts for 78 per cent of the factors determining the price received in Western New York. Of this amount, 41 per cent is due to the production in Western New York and 37 per cent to the production in California.

The multiple correlation[2] between the purchasing power of the price of table grapes in California (X_1), the production of grapes in Western New York (X_2), and the production of table grapes in California (X_3):

$$R_{1\cdot 23} = 0.768 \pm 0.067$$

indicates that the production of grapes in the two areas accounts for 59 per cent of the factors determining the price received in California. Of this amount, 10 per cent is due to Western New York production and 49 per cent to California production.

It is apparent that the size of the Western New York crop has only a limited effect on the price the California grower receives for his grapes. In contrast, California's grape crop is nearly as important as the Western New York crop in determining what price the easterner obtains.

H. J. STOVER

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[2] Multiple correlation coefficients are based on data for the 17 year period, 1910 to 1926, inclusive.

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